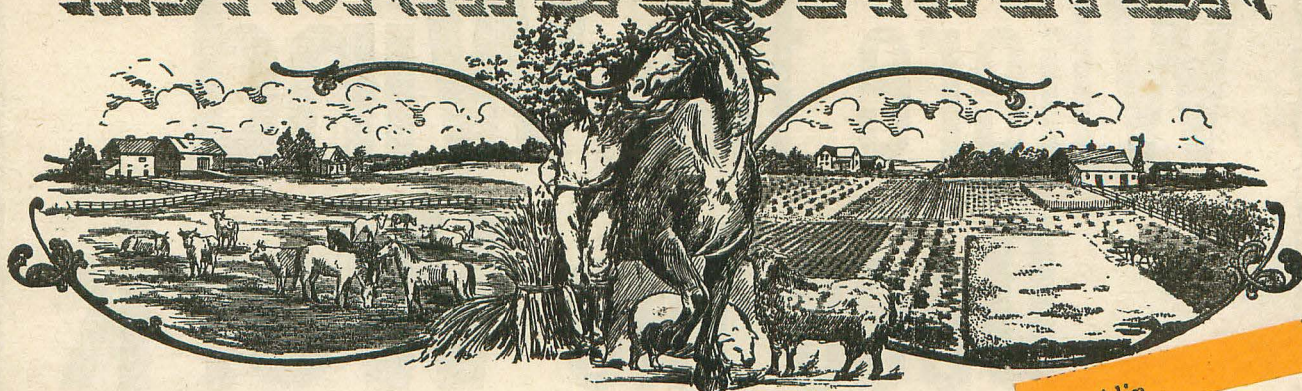


THE NORTH DAKOTA FARMER



50 Cents A Year

Vol. 17, No. 11

Alex Alin

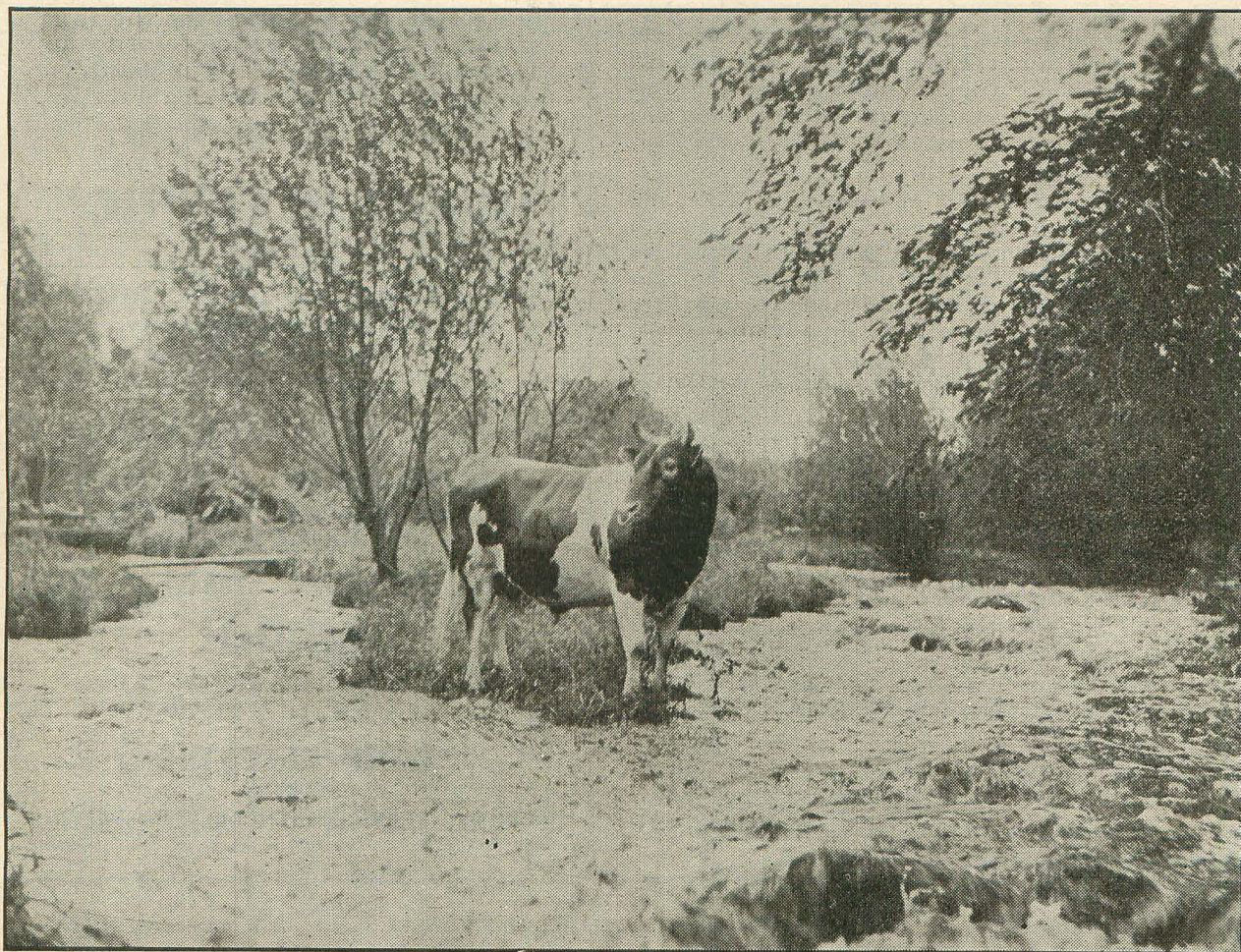
117

Lisbon, N. D.

May 15, 1916

Fargo, N. D.

WHY NOT THE VERY BEST TO HEAD THE HERD?



MAY KING OF LINDA VISTA

Four thousand, six hundred dollars, the highest price ever paid for a Guernsey bull, either on the Island or in America, was paid recently to the Jean Du Luth Farm for their herd sire, May King of Linda Vista No. 77946. Mr. A. L. Lincoln proprietor of the Rocky Reach Farm, Norwell, Mass. and Mr. C. W. Barron, proprietor of the Oaks Farm, Cohasset, Mass. are now the joint owners of this May Rose bull.

The price paid is, in a measure, some indication of the great value placed upon this sire by Mr. Williams and Mr. Grout the owners of the Jean Du Luth Farm. The fact that their herd is rich in the get of May King is the sole explanation of the sale.

978.4
N814
Graham

Where the Wind Does the Work

TO WHOM IT MAY BE OF INTEREST:

The Windmill Electric Plant which we purchased from Mr. George Manikowske and which he installed in the month of February, 1915, has been running now within a few days of a year and every unit of the plant has as yet proved a perfect success and I think if there were any flaws or errors in the plant I should surely have come in contact with some of them. Its main fuel is the wind with a little distilled water for the batteries. We oil the generator and idler once a week; the wheel running on a large pair of Timken Roller Bearings needs but very little oil.

The generator which we have is a $1\frac{1}{4}$ K. W. and gives a flow of thirty amperes at fifty volts; but the wheel has power in almost any kind of wind we have to drive a generator of at least two kilowatts. Still the one which we have, if we had a storage battery large enough, would light two or three farms as large as ours. The switchboard is practically automatic, having an automatic regulator holding the voltage on the lights at 32 volts.

We have the Edison Storage Battery, being a 36 volt 225 ampere hour battery, which has furnished us lights and current to pump water into the pressure tank also to run cream separator, electric iron and vacuum sweeper. We are more than pleased with the plant and also the careful attention of Mr. George Manikowske in connection with the welfare of the plant.

We wish you the advantage of an Electric Light Plant generated by the wind and Mr. George Manikowske the success of selling you the same as he has the first and as yet the only successful Electric Windmill on the market.

Giving you my best regards, I remain

JOHN L. WILLIAMS,
R. No. 1, Cleveland, N. D.

OUR ABSOLUTE

GUARANTEE

OF SATISFACTION

is a certificate of deposit for the full amount of your investment until you are fully satisfied that your plant is worth every cent you have paid for it.

WIND ELECTRIC COMPANY, Inc.

"WIND ELECTRIC"

MEANS

Economy, Service and
General Satisfaction

MANUFACTURERS "WIND ELECTRIC"

Light and Power Plants
Switch Boards Wind Mills

MOTORS GENERATORS STORAGE BATTERIES

\$5.00

will give you light and power for
AN ENTIRE YEAR

"WIND ELECTRIC"

MEANS

ECONOMY, SERVICE, GENERAL SATISFACTION

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WIND ELECTRIC COMPANY, Inc.

WYNDMERE

NORTH DAKOTA

THE NORTH DAKOTA FARMER

Vol. 17, No. 11

LISBON, N. D., MAY 15, 1916

50 Cents a Year

Let Us Reason Together

THE Spirit of Help. There are always at least two ways of doing things: the right and the wrong way. Or, to state it differently, the easy and the difficult way.

Whether on the farm or in the household, those who have devised improved methods of accomplishing the ordinary tasks can render others, similarly situated, a real service by explaining the better way of doing things, in the North Dakota Farmer. Such items of interest are eagerly sought after and will find a welcome place in this paper. The farm and the farm home will be what farmers and farmers' wives make them and by thus co-operating many of the burdens of country life can be removed. Country people owe it to themselves to make rural life as pleasant and agreeable as possible. If you have any suggestions or criticisms, send them along. Help us to make the North Dakota Farmer as useful as the most critical reader can desire.

The Boys and Girls. The boys and girls on the farms are the hope of the future. Their interest in rural activities and their contentment with rural social and economic conditions should be encouraged in every legitimate way. Their home reading should, in large measure, bear directly upon the things they will have to do and think about when they engage in the serious work of life.

There are hundreds of fathers and mothers, readers of the Farmer, who are in position to make useful suggestions for the benefit of country children. The young people themselves can materially help each other by making brief contributions, touching upon things of mutual interest to country boys and girls.

A Boys' and Girls' Department awaits their pleasure. Send in your contributions about flowers, animal pets, boys' and girls' contests or anything else that may be of interest to young people. The habit of writing for

the press is a good one and aids the young mind to develop a subject, use good language and take a broader view of life and its duties. Send all contributions to the editor at Fargo.

The Dignity of Agriculture. Agriculture implies vastly more than the production of grasses, grains and livestock. It is a mode of life. It involves production, that the people may be fed and clothed; distribution, that the labor and capital invested in farming may receive its legitimate reward; and statesmanship, that the source and power of government shall not degenerate into wasteful methods

continued productivity the prosperity of both country and city must rely. Its exploitation may indeed enrich a few, but to the detriment of the many that in future years must suffer in consequence.

Both state and federal government are co-operating not only to dignify agriculture, but to make it a highly intellectual vocation—one that will insure increased profits for the present generation of farmers and also enable them to transmit their holdings unimpaired to posterity.

This involves a real responsibility.

The farmer is the custodian of the soil—the means provided by the benevolent Creator for the production of food and raiment for all the children of men. As such he will be held accountable. No specious contention that holding title in fee simple involves the right of exploitation or abuse of the soil. Like liberty, it should be considered a sacred heritage to be enjoyed and also transmitted without abuse or impairment for the benefit of others. This does not imply any personal sacrifice, but rather gain, since intelligent farm management not only improves the productivity of the soil but prospers the owner thereof in due proportion.

Our sense of patriotism, therefore, should inspire us all to work together to make North Dakota a model state.

FARM CONVENIENCES

NEVER in the world's history has human ingenuity been so active with inventions in order to accomplish big results with so little human drudgery, as at present. To those of us who swung the crowing cradle or mowing scythe in our boyhood days during harvest and haying time, modern farm machinery has a deeper significance. Its evolution is a part of our own experience. And the end is not yet. Improvements occur as regularly as the seasons.

ALFALFA

What makes the swine so healthy feel
And never raise a hungry squeal
The wholesome food that never fails
To put three curls into their tails?

Alfalfa!

What makes all other stock look nice—
And bring the highest market price;
What fills the milk pails, feeds the calf,
And makes the old cow almost laugh?

Alfalfa!

of exploitation, either of the country's natural resources or the people's means for earning a livelihood. In other words the great farming class must assert its legitimate influence for the promotion of justice, liberty and national honor as well as to supply food and clothing for the people.

To accomplish this every farmer must consider patriotism as well as prosperity essential to the well being of the state and the perpetuity of our democratic institutions.

Our Natural Resources. Our natural resources should be intelligently conserved. The abundance and fertility of our native soil is the state's greatest asset. Upon its present and

With modern farm equipment much of the erstwhile drudgery incident to farming has been eliminated and so much more work can be accomplished in less time and done so much better that farming has become a past time in comparison with what it used to be.

And yet farming is a serious occupation. It requires much thought and labor, mingled with numerous vexations in order to win success and avoid failure. Few states, however, are blessed with soil and climatic conditions that insure such abundant returns for capital invested and labor performed as our own commonwealth. And perhaps in no state can modern farm machinery be used with greater satisfaction. Being free from rocks as a rule and comparatively level, the plow, the drag, the drill and the binder can be operated with utmost freedom and with little danger of breakage.

As a rule North Dakota farms are well equipped with modern up-to-date farm machinery. But how about the farm buildings—the farm house where the wife and mother and the children live and work? It must be remembered that modern labor-saving equipment is as available for the farm house as for the farm itself. But are they supplied as abundantly as the farm?

Furnace heat, electric lights, running water, electric power and sewerage can all be installed in the farm home, thus rendering it thoroly sanitary and relieving it of much of the drudgery, at no greater expense, all things considered, than in our city homes. Once installed the expense of operation is trivial, since a windmill will furnish the power to keep a storage battery charged which can be drawn upon at will for the necessary energy to pump water, grind feed, churn the butter, wash the family clothing, separate the cream, etc. Better let the wind do more of the really hard work that the wife may do less. It will pay in the end and be more humane. There is no economy like that of saving a woman's strength.

When it is understood that the aforementioned home equipment can be installed for the cost of a Ford should not the wife be given these labor-saving devices just as soon as possible?

With a farm thus equipped, both for house-work and field work,—and the farm appropriately named—it will possess an air of dignity which no city home can excel. From such homes the children will leave, not for the city, but to secure for themselves similar homes in the great, open, *healthful country*.

I believe God intended that just

such homes should be established and equipped, for every time the wind blows and the lightnings flash He reminds us that these great natural forces were created for our service. Why not make use of them and save the health and strength of wife, mother and children?

The price of these household improvements can be saved every year just as soon as farmers use their good judgement to stop unnecessary leaks, especially those losses they annually sustain because they persist in managing their business individually instead of collectively.

By a sensible system of co-operation farmers could save enough money every year to equip their farms and homes with every modern invention calculated to make life on the farm ten-fold more agreeable.

MORE INTENSIVE CULTIVATION

THE farmer has to contend against the elements of Nature. As yet science has not enabled him to overcome many of Nature's obstacles.

One of the chief difficulties farmers living in semi-arid regions have to contend against is drought. Insufficient moisture, however, results from several causes and cannot always be attributed to limited rainfall. Taking one year with another there is sufficient precipitation to insure a profitable crop, provided the moisture is properly conserved. This is not always done. In fact but little real effort is made to conserve moisture. The average farmer depends upon the chance that seasonable showers will fall at the right time and in sufficient quantity during the growing season. When these showers occur as hoped and sometimes prayed for, well and good. But they do not always occur. In fact quite frequently wide intervals occur between showers; then the crop suffers and occasionally is ruined for want of rain.

While the farmer cannot cause it to rain, yet by a more intensive system of cultivation he can so retard evaporation that the growing crop will not materially suffer, between showers.

Deep plowing will permit all the rain that falls to sink into the soil with but little if any run-off; having made a firm compact seed-bed by using a sub-surface packer or by frequent draggings, where the soil is not inclined to blow, and then by maintaining a shallow granulated mulch on the surface, but little moisture will escape into the atmosphere except as it is transpired from the leaves of the plants, after it has performed its mission. Many farmers find it quite

profitable to drag their grain fields once or twice after the grain has attained a height of several inches in order to break up the crust that forms after a dashing rainstorm.

These late draggings also tend to destroy weeds which, if unmolested, would rob the soil of sufficient moisture that, with the exception of very wet seasons, would greatly injure if not entirely destroy the crop. In fact weeds constitute a most serious menace to successful farming in all countries of limited rainfall. They are chiefly responsible for the droughty conditions that so often are attributed to insufficient precipitation. Moreover when weeds crowd the grain both the yield and quality are impaired; harvesting and threshing is made more expensive and the dockage alone in many instances robs the crop of its profit.

A very sane argument for crop rotation can be based upon the necessity of keeping weeds in subjection without taking into consideration the necessity also of avoiding the destructive influence of accumulating soil fungi.

Better and more thoro tillage, therefore, will prove a panacea for many of the farmer's ills, chief of which is the "dry spell." Indeed, it is scarcely a debatable question longer whether a smaller acreage, well-tilled, is not more profitable than a much larger acreage cultivated in a hurried and hap-hazard manner. With less capital invested in land but more money expended per acre for labor the harvest would be more certain and the dividend much larger, on the money invested. The glory and prosperity of North Dakota, ultimately, will be the result of many small farms, well-cultivated, instead of great bonanza farms where soil exploitation is the rule.

Owing to the lateness of the season and the small amount of plowing done last fall, considerable grain will be put in this spring without much regard for the condition of the seed-bed. A considerable acreage, even, will be stubbled in.

It will be a good plan to note at harvest time the relation between the yield and the amount of labor put on the land. Unquestionably the study of soil cultivation deserves much more attention than it has received, largely because the farms in general are of mammoth size when compared with eastern holdings.

"The First National" corn show held in St. Paul last December proved so satisfactory that its promoters have decided to make it an annual affair and have fixed the dates for the

next show Dec. 11 to 16, inclusive.

This corn show is held under the auspices of the First National Bank and the Northwestern Trust Co. of St. Paul and bankers of the Northwest. North Dakota corn growers heretofore have competed successfully at these corn shows.

THE WATER POWER GRAB

THE water power grab that big business is trying to fasten upon the country is only another evidence of the faithlessness of U. S. senators and congressmen who are elected by the people to serve the **general welfare**, but who, doubtless for considerations that are made sufficiently tempting, vote the people's patrimony away and give corporate power a strangle-hold on the very government itself. Of course, the natural resources of the country

should be developed, but statesmen should be found capable of making laws that will encourage their development without donating them to greedy corporations that will eventually use them to still further enslave the common people. We have some mighty cheap men at the seat of government.

Rev. S. Curries of Park River, the enthusiastic Jersey cattle breeder presented a thorobred Jersey bull calf to Emil Levin, as winner in an essay contest. Subject, History and Merits of the Jersey Cow. Mr. Levin is a student of the Walsh County Agricultural and Training School located at Park River and both the school and Mr. Levin are to be congratulated. The example set by Rev. Mr. Curry of giving substantial encouragement to young men to make a study of the livestock business is most commendable.

time comes then fill them and pack well.—W. C. Palmer, North Dakota Experiment Station.

THE SEED BED

Indianapolis, Ind., Apr. 26, '16.

Editor N. D. Farmer: I suppose on my monument will appear this legend, "Here lies a man who was a 'crank' on the perfect seed and root bed for all plant life." Be it so. Our seed implement inventions have devoted their talents to perfecting machines that would put seed into the ground. They have succeeded most admirably. But it seems never to have dawned upon the wisest of these geniuses, that there was a possibility of overdoing the "putting in" stunt. Oats sown too deep act just as does wheat. It rebels and proceeds to develop a permanent root system at the proper depth, about one half inch. I enclose sample oat stalks sown Feb. 24 (1) and Mar. 21, (2) one by a farmer, deep, one by myself at proper depth. This farmer put in a lot of laborious effort to make a three to four inch seed bed of the ash-heap variety. The disk harrow was his weapon. Then the disk drill put the seed (99% of it) at least, two inches below the surface. Hardly a plant in

GOOD ROADS

Roads have a large influence on social life. The good road promotes it, the poor road discourages it. The good road has a good deal the same effect as shortening the distance. The good road that is passable at all times makes it possible to arrange for meetings while the road that is at times impassable or so that it can be traveled with difficulty discourages arranging for meetings. It is noticeable that when good roads are built in a community that the school houses are improved and the general appearance of the whole community is toned up.

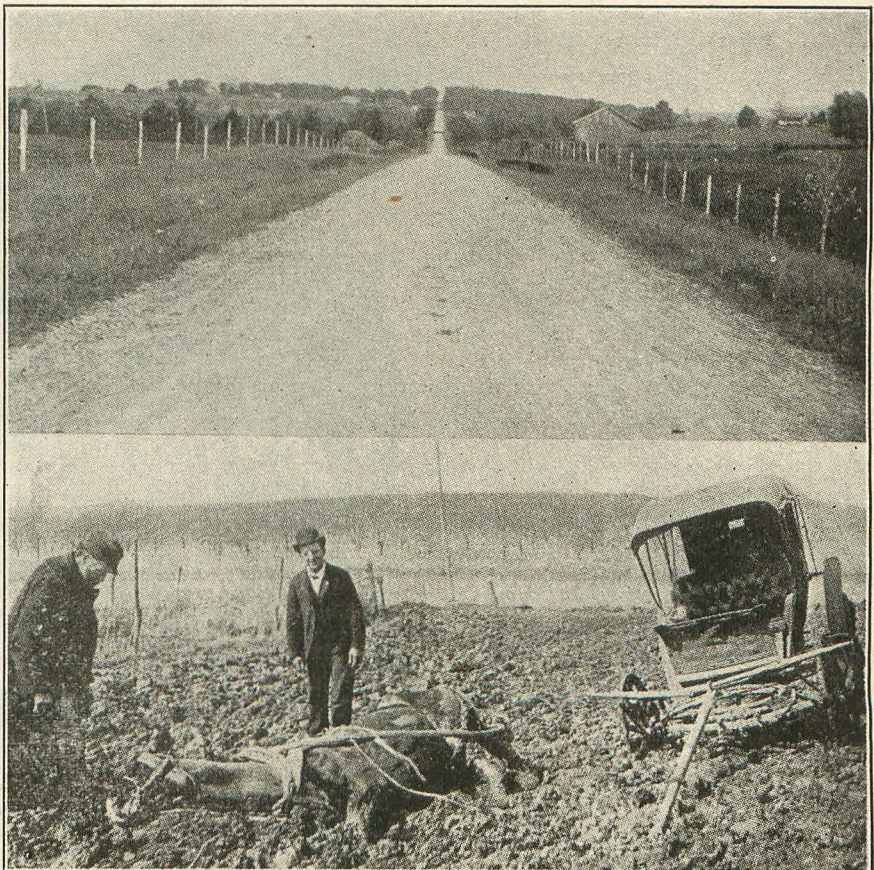
This is only one phase of the good road. It reduces the cost of marketing and makes it possible to market whenever the prices are best.

The good road is a big factor in both the social and economic life of the community. It is easy to secure good roads in North Dakota. In most cases the drainage is good. The rainfall is not so excessive as to soften the road provided the road bed is kept crowned in the middle and is well packed.

The passage from winter to spring is so quick that there is little chance for thawing to soften up the road-bed. Where the rainfall is heavier and spring comes slowly the road bed often softens up so that the wheels go down to the hub.

Study the road this spring and note that where the road bed is well-crowned and packed hard it will loosen up but little, but where the road bed is level or is a little lower in the middle or contains ruts note how the water stands in the low places, softening up the soil so that every passing

vehicle goes down a little deeper. When such places dry up ruts are formed. When these ruts are ground down by the passing of wagons they are ground to dust. So it is really the low places in the road bed that furnish mud in wet weather and dust in dry weather. Keep the low places in the road in mind till road fixing



A Matter of Choice and and A Matter of Economy

entire field has an aggregate of one inch of permanent root, tho it was sown 35 days ago. Sample enclosed.

Also, I send sample of oats sown same day by me, at a depth of one-fourth to one-half inch. You will note that it has twelve to twenty in. of permanent roots. I also enclose sample sown Feb. 24 on top of ground. It has a most magnificent root system. Few farmers could be blinded to the fact that an oat plant with a 20-inch root system on April 26, would be immeasurably better equipped for its life duty, than if it had yet to make its root system. Ask your Dakota farmers to go into their fields and take a look at their root systems, both wheat and oats, as well as any other small grain. Then to get busy and equip their seeding tools with depth gauges. There's millions of dollars involved. The oats growing on this farmer's field would all pull up readily, no dirt adhering to roots. Mine refuses to be pulled up. It breaks off or lifts a mass of earth with roots.

It seems to me that the most glaring example of "perfecting error" that the world is today enduring, is the preachment, by the manufacturers and dealers in agricultural implements, and much abetted by the Agricultural College professors, of the "doctrine" that it is necessary to plow (break) our soil so as to aerate it thoroly. What would be thought of a man who would aerate his mill pond to enable the fish to get a good breath? I have a feeling that, perhaps, a fish placed in a basin of distilled water would right speedily perish on account of the total absence of air in his natural element. So, too, would a plant seed, if included in a "left over" batch in the brickyard. But the mill pond suffers no such lack of atmospheric elements in its make-up. Likewise my experimental work, covering many years, points conclusively to the fact that all well drained soil is abundantly aerated, apparently exactly as it should be without in anyway being disturbed by man, for the best possible root development of which Nature is capable. I truly believe that not ten practical farmers in the United States today, recognize, what I firmly believe to be the truth, that the perfect "root bed" is Nature's creation,—is self-existent, universal. That the "seed bed" is of man's creation and should **not** be of a greater depth than the depth at which he expects to plant his seed. The hue and cry is "Loosen up your root bed, deep, so the roots **can** penetrate it." The slogan should be, "Leave the root bed hard as Nature makes it, so the roots **will** penetrate

it. Try an easy experiment. Plant two rows of corn, one on hard root bed, other on deep turned. August 10th next excavate alongside each and find the roots on the hard area at least twice to thrice the depth into Mother Earth. Whether you examine one stalk or whole row—conditions will be found essentially the same. All plant roots delight in a hard root bed but abhor a loose

(firmly packed) soil. Man **can not** make a perfect root bed without Nature's assistance. Quit trying it. A sample of Northern Oats (Big 4) came into my possession in January. By the "Rag Doll" it listed 100% vitality. I treated for smut and sowed on top of ground Feb. 24, 12 and 14 degrees freezes in middle of March did not harm tho it was up. It now stands three inches tall. I almost

CARBOLA

The Disinfecting White Paint

a snow white mineral paint combined with the most powerful germicide known to science—20 times stronger than pure carbolic acid yet absolutely non-poisonous. Kills lice, mites, nits, and fly-eggs. Keeps the germs of white diarrhea, roup, cholera, glanders, foot and mouth disease, etc. from spreading through flocks and herds. It paints and disinfects at the same time.

Used by such well-known poultry, dairy and breeding plants as

U. S. Government	Wilburtha Poultry Farms
Tywacana Poultry Farms	Cornell University
Borden Home Farms	Strickland Farm
North American Competition Plant, Delaware Agricultural Station	

and many others in all parts of the country.

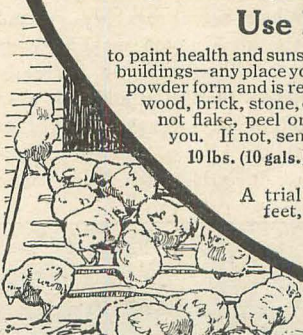
Use It Instead of Whitewash

to paint health and sunshine into your stables, dairies, chicken houses, cellars and out-buildings—any place you want to make bright, sweet-smelling and sanitary. Comes in powder form and is ready when mixed with water to put on with brush or sprayer to wood, brick, stone, or cement surfaces. No waiting, straining or bother. Will not flake, peel or blister. Your dealer carries it in stock or can get it for you. If not, send his name with your order.

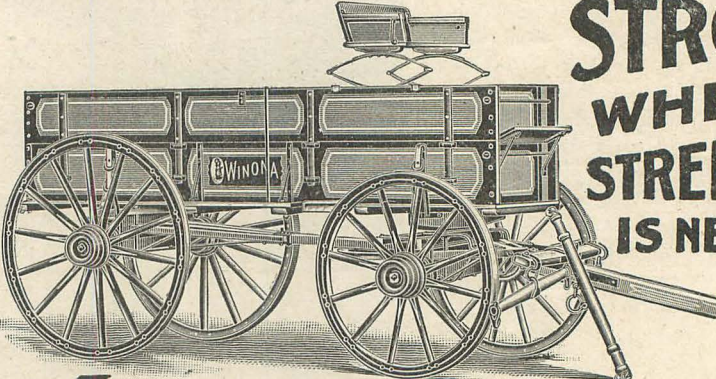
10 lbs. (10 gals.) for \$1 and postage	20 lbs. (20 gals.) for \$2 delivered free
50 lbs. (50 gals.) for \$4 delivered free	

A trial package, enough to paint and disinfect 250 square feet, sent by parcel post for 25 cents.

Carbola Chemical Company
Dept. J 7 E. 42nd St.
New York City



STRONG WHERE STRENGTH IS NEEDED



WINONA Wagons have extra protection at points of greatest strain. Outer bearing axles bring load up against wheels, preventing break-down and insuring light draft. Clipped gears. Bent and double riveted Felloes. Strongest Skeins and Poles. Re-inforced Hounds—Built-to-last Boxes. Iron Clad Hubs when ordered.

WINONA FARM WAGONS

STRONGEST and lightest running. "Good timber and bone dry" with highest grade ironing and quality painting. The wagons you can depend on to carry your heaviest loads without the annoyance and expense of frequent breakdowns.

Write for
Catalogue F
it tells why Winona
wagons lead them all.

Winona Wagon Company, Winona, Minn.

tremble when I think of the prosperity that I escaped when I failed to sow 100 acres instead of a small plot. Perhaps Dakota soil and moisture conditions prevent a trial of this method of oats growing. I. E., Prepare seed bed early enough in autumn to sow two bushels of oats per acre sufficiently early to get a good start before winter sets in. This will winter kill but makes a covering preventing erosion from wind and water. March 1st to 15th broadcast three bushels per acre and go about your business. The yield will be generous in quantity, magnificent in quality, and will mature one week to ten days ahead of April and May sowings.

Yours for better methods of farming.

5901 Dewy Ave.

E. P. McCaslin.

Mr. McCaslin's theory of shallow seeding may or may not meet the conditions of most North Dakota farms. However, it is worthy of consideration. Doubtless much grain is handicapped by being covered too deep. A firm seed bed is of prime necessity, especially in a semi-arid country, and where the soil is thoroly compacted it stands to reason that the seed does not need a very deep covering.

Think it over. Try an acre or two. "The proof of the pudding is the eating thereof."—Editor.

Editor North Dakota Farmer:

Not long ago in your columns, I think, something was told about starting alfalfa successfully with corn. It was not told how nor where it was seeded. Could you let us know in an early issue?—W. E. Colvin, Binford, N. Dak.

Mr. W. C. Palmer informs the N. D. F. that last year he saw corn fields in which alfalfa had been sown at the last cultivation and made a good stand. Last season, however, was exceptionally wet. In an ordinary year the conditions would doubtless be too dry to start alfalfa successfully so late in the season.

W. R. Porter, Supt. of Demonstration Farms intends to experiment with sowing alfalfa at the same time the corn is planted and sowing it in the corn row. For this experiment he has had a special drill made and it remains to be seen what the results will be.

The general rule to prepare a good seed bed and sow alfalfa without a nurse crop, either in drills about 30 inches apart or broadcast is the surest way to secure a good catch.

Corporation and Co-operation

By W. C. Palmer, Agri. Ed., N. D. A. C.

A corporation is a business enterprise into which a number of people have put their money. The reason for doing this is usually because better returns can be secured in this way than if each one carried on a small business with his own capital alone. For instance railroading, a good many thousand people furnish the money that makes up the capital of a big railroad system. If instead each one had started railroading independently a result somewhat as follows might be imagined: One line three miles long, another line five miles long, another ten miles and so on. The cars would necessarily be small, the gauge would likely be different, there would likely be no stations.

When a river was reached these little roads could not afford to bridge it. When a hill or mountain stood in the way these little roads would stop, they could not afford to cut them down or to tunnel them. When a person would attempt to take a journey the first ticket might be for three miles. At the end of the three mile run the conductor would announce, "End of the line, everybody out." The next ticket might be for five miles then it would be "end of the line, everybody out." Here there might be a river so that it would be necessary to secure a dory to haul on's baggage across and a taxi-boat to take himself over. The next trip might be ten miles and then it would be "end

Reboring and Grinding of Cylinders

This is the time to fit up your steam engines and gas tractors for the coming season

We can rebores and grind your cylinders, fit new oversize pistons and rings, make and fit new crank pins, straighten shafts, bore and bush gears and clutches or do any kind of machine work. Refue boilers and replace stay bolts. We carry in stock all sizes of stay bolts, patch bolts, bracket bolts, rivets, boiler flues, stay-bolt taps and boiler taps, shafting, shaft hangers, cast iron pulleys, woodsplit pulleys. Write and let us quote prices on any work you have.

Craig Brothers, Fargo, N. D.

P. O. Box 295.

Telephone 554 W.



The Wheat Yield Tells the Story
of Western Canada's Rapid Progress

The heavy crops in Western Canada have caused new records to be made in the handling of grains by railroads. For while the movement of these heavy shipments has been wonderfully rapid, the resources of the different roads, despite enlarged equipments and increased facilities, have been strained as never before, and previous records have thus been broken in all directions. The largest Canadian wheat shipments through New York ever known are reported for the period up to October 15th, upwards of four and a quarter million bushels being exported in less than six weeks, and this was but the overflow of shipments to Montreal, through which point shipments were much larger than to New York.

Yields as high as 60 bushels of wheat per acre are reported from all parts of the country; while yields of 45 bushels per acre are common. Thousands of American farmers have taken part in this wonderful production. Land prices are still low and free homestead lands are easily secured in good localities, convenient to churches, schools, markets, railways, etc. There is no war tax on land and no conscription. Write for illustrated pamphlet, reduced railroad rates and other information to

W. E. BLACK
Clifford Block Grand Forks, N. D.
Canadian Government Agent.

NO PASSPORTS ARE NECESSARY TO ENTER CANADA

of the line, everybody out." In case there was a hill or mountain here it might be necessary to take a stage or auto to get to the next piece of railroad. Or suppose that one is taking a load of hogs to market over such railroads, unloading every few miles, driving them across town where the same stations were not used by both roads. In fact if railroading were carried on in this way there would be no railroads.

In farming the corporation plan will not work and the purely individual plan is something like the individual railroad described above. The farm business can be made more effective thru co-operation. The railroads to be a success must be in touch with the great producing districts and the markets. Notice how they reach out into the grain fields, the mining sections, the forestry regions and the other end reaches out to a market. Farming to be the best success must likewise reach the market as well as the producing regions. Each little farm by itself is about as effective as the railroad five miles long, neither end gets anywhere.

Thru co-operation a part of the farm enterprise can be handled much the same as a corporation and on fully as big a scale, while the rest of the farm enterprise that is best handled in the individual way can be so handled. There should be co-operation in planning the farm business for a community. The planning should be such that there will be a good deal of one kind of product to sell and that of a uniformly high quality, this can then be marketed in a co-operative way. That is, the farmer deals with the market in a co-operative way. This same farm community if it produces a good deal of one kind of product will need to buy a good deal of one kind of product, this can often be done better co-operatively than individually. If a certain kind of stock is to be raised the community can delegate one man to buy it and the cost per individual will be small, while if each one had to go the expense would be too great to warrant it. Again when farmers co-operate they can buy much better sires than the individual can afford to

buy. In other words by co-operating the stock can be improved in a way that the individual could never reach and at no greater cost than in the individual way. It is a good deal the same as the little individual railroads not being able to bridge the big river but the big railroad system can. In this way all the produce that goes over the system can be handled at less cost and quicker. Or again, the co-operating farmers can put up warehouses and can study markets and standardize products in a way that individual farmers could not because it would not pay them, just as it would not pay the little railroad to cut down the hill, or tunnel the mountain. The big system can not afford not to do so.

The production end of the farm can best be handled in the individual way, at least to a certain extent. The farm is more than a business it is also a home, and to be the best home each farm must be under individual ownership and management. The planning of the production, the selling of the product and the securing of the things needed on the farm can be done better in a co-operative way. In fact this kind of co-operation will do for the farm what the corporation has done for the railroad. The individual railroad would be only a few miles long reaching nowhere. The purely individual farm is largely in the same fix. The corporation railroad reaches from producing area to markets. Co-operation will do the same for farming, putting it in touch with markets and manufacturing. The corporation plan has made the railroads more useful to the public than could

the individual plan. Likewise the corporation plan in farming will make the farm more useful. It will make the farm produce more nearly what the market needs, thus insuring better prices and a larger proportion of what the consumer pays will reach the farmer and the state in which it is produced. This will result in the farmer having more money to spend for better buildings, better clothes, better education, etc., etc. A good deal of the money that goes out of the state in the individual plan will remain in the state under a co-operative plan.

The individual railroad looks ridiculous. In a few years the purely individual farming plan will look as ridiculous. What the corporation has done for the railroad, co-operation will do for the farm.

Distrust the things that come easy; that which costs nothing is usually worth its cost and nothing more.

DURUM WHEAT WANTED

We are in the market for a few cars of choice

DURUM WHEAT also MILLET SEED

in either car lots or small shipments. Mail samples for our bid.

FARGO SEED HOUSE

Fargo,

North Dakota

"PREPAREDNESS" OVERHAUL YOUR AUTOMOBILE NOW

Get ready for the Spring business. We can give you service in this line, as well as others, for we have expert Welders, Machinists and Mechanics who with our equipment are able to accomplish the most difficult jobs. We rebores motor car and gas engine Cylinders and fit them with larger pistons and rings. We use the very best of material that can be had. Auto Metal Bodies and trailers built, write for prices.

DAKOTA WELDING AND MANUFACTURING CO.,

Telephone 926. 203-5th St. N. FARGO, N. DAK.

ALFALFA IN NORTH DAKOTA

Alfalfa is becoming one of the well established crops in North Dakota farming. Each year keeps piling up new evidence of the success with which alfalfa can be grown in the state.

One field of alfalfa at Dickinson was seeded 10 years ago. This is of the Grimm variety. There has been no indication of winter killing or of any reduction in the stand.

At the Edgeley Sub-Station there is also a ten-year-old field of Grimm alfalfa. This is as vigorous as it has been at any time and is showing no signs of winter-killing or in any way becoming poor.

At the Central Experiment Station the Grimm alfalfa has been grown even longer and with the same results. Alfalfa has proved to be one of the greatest hay producers in the state, averaging somewhere in the neighborhood of two tons per acre and the hay is much superior to that of any of the grasses. Alfalfa has also proved a good seed producer in the state. This means a great deal as there is a big demand for the North Dakota Grimm alfalfa seed. Grimm in the first place is hardy and having been grown in the state makes a furtherance of its hardiness. Grimm seed is quite expensive, running somewhere from 50 cents to one dollar per pound. However, as more is being learned about the growing of alfalfa it is found that only a small amount of seed is needed per acre. One pound of seed provides five seeds for each square foot, which is really more plants than is wanted. The alfalfa seed being small and not any suitable machinery having been devised for seeding it, it has either been put in so deep that most of the seed would not grow or it has been sown too shallow for the seed to germinate and take root. Mr. Porter of the State Demonstration Farms has experimented a great deal with the different methods of sowing alfalfa. One of the latest methods is to sow one row alternating with small grain and so on. Good stands were secured in 1915 in addition to a good crop of grain. One pound of seed was sown per acre. The grain was sown in the regular grain box and the alfalfa in the grass seed attachment. Every fifth hole in the grain box was closed up and every fifth one in the grass seeder box was left open, which results in the drill sowing four rows of grain to each one of alfalfa. One pound of seed was found to give a splendid stand. This method has two advantages, a small amount of seed is required and also the possibil-

ity of securing a grain crop at the same time. The grain crop that was secured where the alfalfa was sown in every fifth drill row gave practically as good yields as where the field was sown solid to grain so that even if the

alfalfa had failed, as might have happened in a real dry season the only loss would have been the seed. However, this method is just in the experimental stage and should be used accordingly.

Producing and Marketing Potatoes

By T. A. Hoverstad

THE last year-book of the United States Department of Agriculture gives statistics showing the production of the different farm crops. From this authority we learn that the potato is the world's largest farm crop. This is not so surprising when we reflect on the universality of consumption of this food commodity, and the varying conditions under which it can be grown. In spite of the magnitude of this crop, and the wide extent of distribution, there are people in the world who would be better off if the world's production would be still larger and the distribution more extensive.

Potato Production in the United States

There are four states that produce a very large surplus over home consumption. These states are Maine, Michigan, Wisconsin and Minnesota. There are other states that give promise to become great potato states. These are North Dakota, Montana, Idaho, Wyoming and South Dakota. In addition to the above, we can mention New York, Pennsylvania, Ohio, Iowa and Colorado, that are now producing vast volumes; New York being the leading potato producing state. When these states are located on the map, it will be seen that

Farmers Lost \$90,000,000 Last Year From Worms and Indigestion

How Much Did YOU Lose? Do you know that

the live stock losses in the United States last year were about \$100,000,000? The U.S. Department of Agriculture says in one of its bulletins that probably 90% of live stock losses are caused by WORMS AND INDIGESTION—both of which can be prevented.

How Much of This \$90,000,000 Loss Did You Suffer?

How much was your feed loss—feeding worms?

How much was your loss in stock which did not thrive well?

How much was your loss in pigs which died from worms and indigestion or the train of ills which follow;—even contagious disease, of which these conditions are often forerunners?

How much was your loss in sheep and lambs, or other stock?

These are the losses which totaled last year \$90,000,000. And, remember, the chief causes—Worms and Indigestion—can be prevented.

I'll Show You How to Prevent These Losses This Year

I am doing it for thousands of other farmers. I will do it for you. I'll prove it before you pay me a cent. I'll do it with SAL-VET.



(256)



The medicated salt, farm animals take freely and rid themselves of worms. It requires no dosing—no drenching—no starving. Contains no antimony. Costs only 1-12 of a cent a day for each sheep or hog, and only 1-3 of a cent a day for each horse or head of cattle. I prove what it will do before you pay on my 60 days trial offer.

"I never had horses do any better during the past fourteen years than mine did this winter, during which time I have been feeding SAL-VET." John Ackerman, Herrick, S. D.

Don't Send Money—Just the Coupon

Fill out the coupon and mail to me today. I'll supply you enough SAL-VET to last all your stock 60 days. You pay the freight when it arrives and feed it according to directions. If SAL-VET fails to do what I claim, I'll cancel the charge; you won't owe me a cent.

Address **SIDNEY R. FEIL, Pres.**
The Feil Mfg. Co., Chemists, Cleveland, O.

Prices		
Each 40 lb. package	- - -	\$2.25
Each 100 lb. package	- - -	5.00
Each 200 lb. package	- - -	9.00
Each 500 lb. package	- - -	13.00
500 lbs.	- - -	21.12

Extra discount in larger quantities.
No orders filled for less than 40 lbs. on this offer.
60 days' trial Shipments are based on 1 lb. of SAL-VET for each sheep or hog and 4 lbs. for each horse or head of cattle. Dealers sell SAL-VET at above prices but in the far West and South the prices are a little higher on account of the extra freight charges.

THE FEIL MFG. CO.

Dept. 141-5-16 Cleveland, Ohio

Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in 60 days, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle

Name.....

P. O.....

Ship. Sta.....State.....

they are all located either in the Northern States, or in the Rocky Mountain region.

Marketing Potatoes

Intelligent production is fundamental to successful marketing. What is needed is first a production so large

that the market can depend on a constant supply. The grower should study what the consumer wants. It is not the business of the producer to educate the consumer. Supply the consumer the potatoes that please his fancy. The market today demands the old well-known standard varieties; new and unknown varieties should be omitted from the grower's list.

Potatoes should be graded to a certain size. No potatoes that go thru a one and five-eighths inch screen should be sent to the general market. The potatoes that weigh more than twelve or fourteen ounces should not be sold except where there is special demand for a potato of very large size. All potatoes that are of unusual shape should be discarded. In selling seed stock select only those that are good producers. We shall have a constant market in the south for northern grown seed potatoes. It will be wise to grow specially selected stock for this market. For table stock the market demands a smooth, uniform tuber weighing from eight to twelve ounces. The culls should not be destroyed; they should be fed on the farm or made into starch or potato flakes. In Germany the largest part of the potato crop is fed to livestock. On the average the German potato crop is used as follows:

Fed to livestock....660 million bus.
Human food.....440 million bus.
Seed.....200 million bus.
Industrial alcohol...100 million bus.
Starch.....66 million bus.
Decay, etc.....165 million bus.

Potato Production

The method of growing potatoes is familiar to all. It would be waste of space to review the common methods here. The important thing is for the grower to do what he knows he ought to do. This is especially important in regard to prevention of potato diseases. All seed should be treated with formalin or corrosive sublimate, preferably the latter. Each tuber, intended for the seed plot should be examined for diseases. Whether it will pay to spray for blight, each grower should determine for himself.

North Dakota as a Potato State

It is interesting to visit the different potato dealers in Chicago and ask them where he gets his best potatoes. He will be surprised to learn how many times he will be told that the best potatoes come from North Dakota. The potato growers in North Dakota should guard jealously her reputation. Effort should be made to stamp out as much as possible the diseases now in the state and to prevent others from making entrance. If

TYPEWRITERS

All kinds of factory rebuilt typewriters for sale at very low prices—\$10 and up. Farmers, teachers, doctors, lawyers,—everybody uses a typewriter nowadays. Why not you? Our prices make it possible for anyone to own a typewriter of his own. Write us at once.

Berg Typewriter Exchange
Dept. 21, - Hendrum, Minn.

Caught 51 Rats One week

Trap resets itself; 22 inches high; will last for years. Can't get out of order; weighs 7 pounds. Twelve rats caught one day. Cheese is used doing away with poisons. The trap does its work and never fails and is always ready for the next rat. When rats and mice pass the device they die. Rats are disease carriers; also cause fires. These Catchers should be in every school house. Rat Catcher sent prepaid on receipt of \$3. Mouse Catcher, 10 inches high, \$1. Money back if not satisfied.

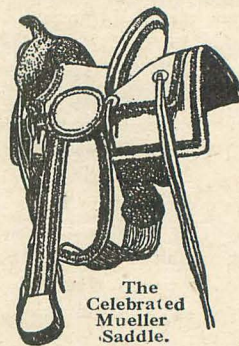
H. D. SWARTS
Inventor and Manufacturer
Universal Rat and Mouse Traps
Box 566 : : : Scranton, Pa.

MINNESOTA FARM FOR SALE

160 acres good clay loam land 3 miles from Leonard, Beltrami County, Minnesota. On state road, 1 mile to school and church. 40 acres under cultivation, balance fenced for pasture. House, barn, granary and other buildings in good condition. Scandinavian settlement. A bargain at \$30 per acre on easy terms. Write for particulars to

CLAYTON C. CROSS,
18 Markham Bldg., Bemidji, Minn.

A\$45 Saddle,\$36 Cash



The Celebrated Mueller Saddle.

Our latest Swell Fork Saddle, 14-inch swell front, 28-in. wool-lined skirt, 3-in. stirrup leather, rig, made of best oak leather, guaranteed beef hide covered solid steel ork.

THE FRED MUELLER

Saddle & Harness Co., Dept. R. 1413-15-17-19 Larimer St. Denver, Colo. Send in your name for our catalogue now ready.

READ THIS

There must be a reason why there is such a demand for Justin's Boots. If you are going to wear boots, why not wear the best? Yours for the Best Cowboy Boots Made. Send us your address on a postal card and we will send you our catalogue, and self-measuring system.

GIVE US A TRIAL

H. J. JUSTIN & SONS
Mfrs. of Justin's Celebrated Cowboy Boots. NOCONA, TEXAS



For Greatest Satisfaction Use DOUBLE SERVICE Automobile Tires

Guaranteed 7,000 Miles Service

Absolutely Punctureproof

Double Service Tires are made double the thickness of the best standard make tires.

This 100% greater wearing surface naturally gives that much more mileage and service. The average of 12 miles of tough fabric and one inch surface tread rubber makes these tires absolutely punctureproof.

These tires excel all others for use in the country over rough and rugged roads as well as on hard pavements. They are as easy riding and resilient as any other pneumatic tire—the air space and pressure being the same.

They are the most economical and "care-free" tires made and are used where tires must be depended on and tire troubles cannot be tolerated. Many Double Service style tires are in use in the U. S. government and European War service. Our output is limited to a certain amount, but for a short time we offer the following reduced special prices as an introductory offer:

PRICES

Tires Tubes	Tires Tubes	Tires Tubes	Tires Tubes
30x3 in. \$8.00	32x3 in. \$10.00	34x4 in. \$17.45	\$4.65
30x3 1/2 in. 10.85	32x3 1/2 in. 12.75	34x4 1/2 in. 21.20	5.60
32x3 1/2 in. 12.75	34x4 in. 15.75	36x4 1/2 in. 22.60	5.75
34x4 in. 15.75	36x4 in. 18.75	38x4 1/2 in. 23.60	6.20
36x4 in. 18.75	38x4 in. 21.75	40x4 1/2 in. 26.30	6.60

All other sizes not included in above list also furnished. Non-skids at 10% additional. Terms: Payment with order at above special prices, a 10% discount allowed on orders for two or more tires. All personal checks must be certified.

Try these tires now and be convinced of their very high qualities. Sold direct to the consumer only. Descriptive folder upon request. Write for it.

Double Service Tire & Rubber Co., Akron, O. Dept.



DOUBLE THICKNESS OF TREAD AND RUBBER ABSOLUTELY PUNCTUREPROOF

LADIES!!

Write Today For Our New Free Booklet

The Ladies Cyclopaedia of Health and Beauty.

Let us tell you how to eradicate wrinkles, pimples and other facial blemishes and restore the fresh complexion and contour of girlhood. We send this book to you Free for your name and address.

The Peerless Toilet Supply Co.

Bismarck : : N. Dak.

the growers will select only standard varieties, grade them to a certain size, eliminate all diseased and badly shaped tubers, and "feed" the market instead of "glutting" it, it will mean much to the prosperity of the state.

Among Our Advertisers

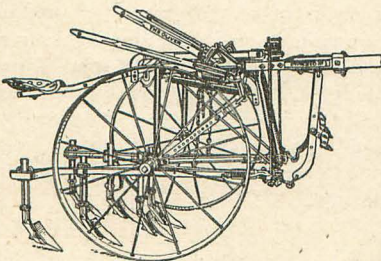
LOWEST COST PER MILE FOR TIRES

The cost of an automobile tire cannot be figured on its first price; it is the miles service that a tire gives that

gives it value. A tire cheap in first cost may be very expensive, as it might not run to even make it a fair investment.

However, there is one tire that not only costs less than the regular standard brands, but it is even guaranteed to give 7000 miles service as well and is claimed to be absolutely puncture-proof. This is the Double Service Tire, manufactured by the Double Service Tire and Rubber Company, of Akron, Ohio. These tires contain twice the wearing surface of ordinary tires which gives them their great wearing qualities. They are in use now in all parts of the country under all conditions, and the most favorable reports are received regarding them. It would pay any automobile owner to at least give them a trial.

Oliver



No. 1 Cultivator

The Oliver No. 1 cultivator is of the seat guide, parallel gang type.

Since the gangs are held in parallel position under all conditions, it is impossible to swing one gang aside, leaving a row of uncultivated ground. All the ground is cultivated and narrow strips of weeds are not left to weaken the young plants.

The weight of the operator is utilized in moving the gangs. On hillside work the weight of the operator serves to keep the gangs working up the slope of the hill. This feature makes the No. 1 cultivator very easy of operation.

It is possible to balance the No. 1 cultivator for operators of different weight. This removes neckweight from the horses.

The No. 4 cultivator is the same as the No. 1 except the axle of the No. 4 is set in, adapting it for work in very narrow rows.

Ask your Oliver dealer to show you the No. 1 or No. 4 cultivator. If he cannot, write us. You will appreciate their ease of operation and the good work they do.

Oliver Chilled Plow Works
Plowmakers for the World
South Bend, Ind.

COULD SHOE ENTIRE U. S. ARMY IN FIVE DAYS

By keeping its factory going at full capacity day and night for five days, a pair of shoes could be made for every soldier of the United States standing army of 120,000 men. This interesting news was given out by the officials of the well-known Mayer Boot & Shoe Company of Milwaukee, to convey some idea of the magnitude of a present-day modern shoe factory.

The regular working capacity of the Mayer factory is 10,000 pair of shoes for every ten-hour working day. This is at the rate of 17 complete pairs of shoes every minute. In other words, there is available in this one plant facilities for turning out 3,000,000 complete pairs of shoes during every working year of 300 days.

But still more astonishing is the fact that each shoe requires an average of 75 operations in the making. This means 450,000,000 operations during each working year, which keeps industrious hands busy and provides employment for many.

The product of the Mayer Boot & Shoe Company is well known to our readers, having been advertised with us for years. The company has been in business for over thirty-five years and grew from a very small beginning to the present big proportions, simply by making good shoes.

They manufacture the well-known Mayer Honorbilt Shoes, for men, women and children, Martha Washington Comfort Shoes, Dry-Sox Wet Weather Shoes and Honorbilt Cushion Shoes.

Edgewood Farms, Whitewater, Wis., are disposing of all their calves this spring, both sexes, at \$20.00 each, and anyone wishing a start in this breed, or to in-

crease their present herd, will do well in writing them. These calves are sent out at four to six weeks of age, and are crated in light strong crates so that they can be safely and cheaply shipped long distances, and they are guaranteed to arrive in good condition.

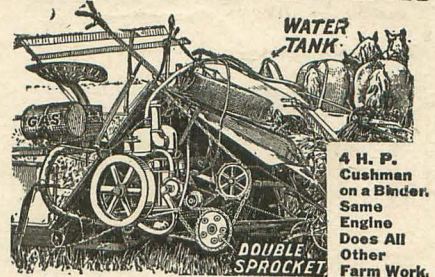
They are bred up strictly for heavy milking purposes, are practically pure Holstein but not registered, and all typical to the breed.

It will pay you to write them if you want Holsteins.

Cleanliness Necessary in Feeding Calves

Clean feeding pails, troughs, and stalls are safeguards against digestive troubles. Milk should be fed only in clean pails, which should be washed and scalded after each feeding. All feed boxes should be kept clean. Special care should be taken to prevent meal from fermenting in the corners of boxes. Fermented or moldy feed will often upset the digestive system of a calf and endanger its life. No more grain should be fed than will be cleaned up in a few minutes. The bedding in calf stalls becomes wet very quickly. The calf should by all means be kept dry, and it is therefore necessary to keep the stalls well bedded at all times.

Saves a Team



Cushman Binder Engines

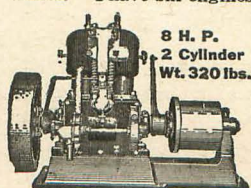
For All Farm Work

Thousands are in use in the Northwest, doing all-purpose work, that were bought for binder use. A 4 H. P. engine that will stand up on the binder will deliver the goods on any stationary job.

Cushman Engines are Throttle Governed and run easily and quietly.

May be run at any speed—speed changed while running. Direct water circulating pump prevents overheating, even on all-day run. Equipped with Schebler Carburetor and Friction Clutch Pulley. Very light weight and easy to move from job to job. 4 H. P. weighs only 190 lbs.; 8 H. P. only 320 lbs. Sizes 4 to 20 H. P. Not a cheap engine but cheap in the long run.

Iver A. Madson, Wheatland, N. D., writes: "I have six engines and the Cushman is the best. It does not jump like a heavy engine. On the binder it is a great saver of horse flesh. It will do all you claim and more too." Ask for free engine book.



8 H. P.
2 Cylinder
Wt. 320 lbs.
CUSHMAN MOTOR WORKS
88 North 21st Street
LINCOLN, NEBRASKA

North Dakota Farmer

Entered as second class matter in the postoffice at
Lisbon, North Dakota

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O. O. CHURCHILL **C. B. WALDRON**

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Address all business correspondence to the
Lisbon office.

Vol. 17 **MAY, 1916** **No 11**

Plant trees.

Ten men working together co-operatively will accomplish more than one hundred men working individually.

Every North Dakota farm should be named. The children will be proud to grow up on a farm that has an appropriate name.

It doesn't pay to nurse a grouch. Smash right and left for what you believe to be right and against existing evils, but keep on smiling—and smashing.

"No other human occupation opens so wide a field for the profitable and agreeable combination of labor with cultivated thought, as agriculture."—Lincoln.

Farmers should remember that insect eating birds are their best friends, such birds should not be molested. On the other hand their multiplication should be encouraged as much as possible.

The weary pedestrian has no license to criticise the conveyance that gives him a free ride. By the same token the farmer resents the criticism of his organizations by those whom he carries on his back.

"At the head of all the sciences and arts, at the head of civilization, stands—not militarism, the science that kills, not commerce, the art that accumulates wealth—but agriculture, the mother of all industry, and the maintenance of human life."—Garfield.

Now that the roller towel and public drinking cup have been prohibited

by law to prevent the spread of contagion among humans is it not equally important to abolish the public watering trough to prevent distemper and other contagious diseases among horses?

Conservation of moisture is the biggest problem that confronts the farmer in every semi-arid region not supplied with facilities for irrigation. Deep plowing with the furrow slice packed down firmly against the subsoil below, and a granulated surface maintained by means of cultivation will do the business. Try it.

When the roof leaks it should be repaired. Otherwise property deteriorates and loss is inevitable. Farms sometimes leak. Money is made and lost—very often on account of carelessness or poor seed or unworkmanlike methods. Poor cows, machinery out of repair, weeds, etc., also are leaks that should not be tolerated.

Thrift, or the saving habit, should be as thoroly inculcated in the child's mind as arithmetic or geography. In fact the problems of arithmetic should be largely devoted to this end. The public school can lay no better foundation than a concrete knowledge of how to insure, by practicing the saving habit, a competence for the declining years of life.

The Seed Growers' Association, under the direction of Seed Commissioner Bolley, with branches in Ransom County, Devils Lake, Grand Forks and Mayville, with others in prospect, is a long step in the right direction. Improved seed is as important as improved livestock and when actual farmers take hold of this work, as they are doing, surprising results will follow. Prof. Bolley has the right idea and the farmers have confidence in him.

If farmers would pay more attention to the character of the men they elect to office—especially to the Legislative Assembly—and co-operate in so doing, as it were, there would be less to kick about afterwards. It is well to inquire as to the candidate's viewpoint of things affecting the general welfare; better still to select a candidate whose interests coincide with the general welfare. Simply because a man wants to secure the prefix Hon. in front of his name is a mighty poor recommendation for a would-be law maker, but worse still is the bright young fellow with a well-modulated voice who represents nothing in par-

ticular except it be a keen desire for office.

The proper way is to pick out the man you want and simply elect him. It will be his duty to serve you.

We have become so thoroly commercialized, mentally and morally, that no sooner does the President suggest that "preparedness" is the paramount issue before Congress, than preparedness becomes a head liner for all sorts of advertisements. The booze vendor sends out his literature suggesting certain brands of damnation as the proper preparation for the holiday festivities; the correspondence school recommends the short cut to practical education as a preparation for increased salary; the patent nostrums that cure nothing but the vendor's sweetened bank account; the lithographed stocks in prospective gold mines or rubber plantations, etc., and a hundred other schemes for making easy money or curing incurable maladies, are paraded as the sort of preparedness that a gullible public will bite at, while Congress is wrestling windily with preparedness in case some foreign foe should threaten our liberties.

The commercial robber barons of this country, commonly referred to as "big business" are the greatest menace to our democratic institutions and social welfare. They corrupt our legislatures, control altogether too largely our courts and newspapers and are now reaching out to purchase or crush (whichever course offers least resistance) the educational policy of our higher institutions of learning. Within the past two years the agricultural colleges and universities of Oklahoma, Utah, Washington, Montana and North Dakota have lost seven presidents and several progressive professors, and the end is not yet. The veiled agency emanating from the money power selects its tools and, mark you—after creating a local issue, their work is accomplished with never a visible connection with the real source of mischief. Verily the country's greatest danger is from its own citizens who love money and power more than their country's welfare.

Sworn Statment of the North Dakota Farmer
Made Under the New Postal Law
Editor—J. H. Worst, Fargo, N. D.
Publisher—W. G. Crocker, Lisbon, N. D.
Owner—W. G. Crocker, Lisbon, N. D.

There are no bonds, mortgages or other securities outstanding against the North Dakota Farmer.
North Dakota Farmer,
By W. G. Crocker, Publisher

Sworn to and subscribed before me this 23rd day
of March, 1916.
Seal W. F. Grange
My commission expires March 16, 1917

Livestock Department

FARM AND STOCK NOTES N. J. Shepherd

In shaping young trees always head them low.

Abuse spoils more good horses than any other cause.

A good pedigree is a good thing if backed by a good animal.

Prepotency in the sire is not assured until proven in the offspring.

To secure the most exhaustive churning churn at low temperature.

The hog that is kept growing is always finished for market most easily.

With all trees, allowing unnecessary limbs to grow is a great waste of plant energy.

summer market they should receive grain as well as grass.

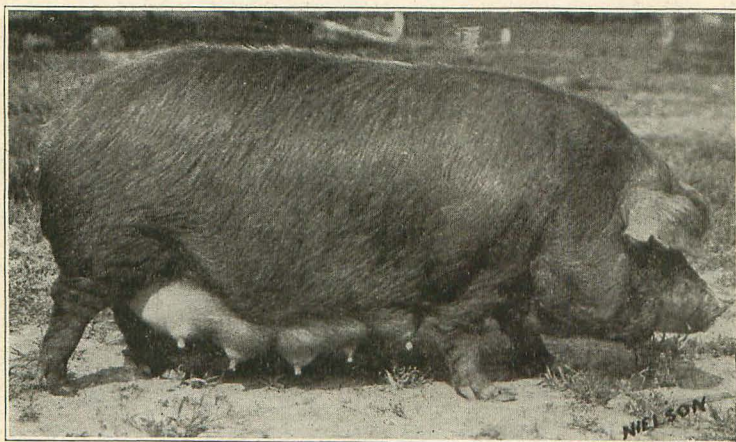
Success in the sheep business depends as much or more upon the care taken as upon the sheep.

A cow will give considerable more milk if quiet and undisturbed and milked rapidly than if excited and worried.

A variety of fertilizers furnishes the variety of food elements needed for the different kind of plants to be grown.

Any cause that tends to lower the vitality of the hog also tends to render it susceptible to disease.

Style and finish count in the market value of draft horses as well as in



Where Good Breeding Shows

The disposition of a horse has a good deal to do with his value on the farm.

There is no profit in feeding hogs or pigs after they are fit to kill.

Horse breeding involves considerable capital, but it offers large dividends when successfully handled.

Churning at a low temperature not only gives more exhaustive churning but it gives better butter.

When lambs are grown rapidly, the quality of the meat is very superior to that grown slowly.

The horse that is always ready for his meals is the one that earns his board.

It is the hog that is kept growing without being overtaxed that makes the best profit.

A good growth the first year of the life of a colt costs less than at any other age.

If the lambs are intended for early

coach or driving horses.

The only safe and sure way to avoid germ infection in the dairy is to prevent, as far as possible their getting into the milk.

No soreness will follow a superficial burn if kerosene is applied quickly. Repeat applications of it until the burning sensation is gone.

Nothing tends so much to cause a cow to fall off in her yield of milk as the leaving of even a small quantity of stripping in the udder.

It matters little what breed a cow belongs to if at the end of a year she shows a good margin to her credit above what it has cost for her maintenance.

The most common cause of bad flavor in butter is the failure to get rid of the buttermilk, for no butter can long remain sweet unless this is thoroly removed.

Matured sows, as a rule, raise the

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

HOLSTEIN Cows, Heifers and Young Bulls. All ages. Write Envilla Stock Farm, Cogswell, North Dakota.

FOR SALE—Improved Chester White Pigs from April litter, either sex; pedigree furnished. John F. Zimmerman, Davenport, N. D., Route 2.

WORLD'S CHAMPION A. R. RED POLLS! Minnesota Champion A. R. Guernseys Consistent Winners in the 1915 Show Ring 20 of our foundation cows average 601.6 lbs. butterfat, official.

Jean Du Luth Farm, Duluth, Minn.

For Sale: Poland China Spring Pig Boars, S. C. White Leghorn Cockerels. Grimm Alfalfa Timothy and Clover Seeds. Catalog Free. J. W. BECKMAN, COKATO, MINN.

Pure bred Percheron Horses and Shorthorn Cattle Stock for sale. Nels Knutson & Sons, R. 1, Fullerton, N. D.

THE PLEASANT GROVE FARM at Holmes, Grand Forks County, sells registered Shropshire and Oxford Rams and Ewes; also Polled Durham Bull Calves. R. E. Strutz, Bismarck, North Dakota.

REGISTERED Gurnsey bulls old enough for service. Also a few heifers for sale. FRANK W. RICHARDSON, Garden City, Minn., R. 1.

CALVES. SHORTHORNS, rich cherry red, **HOLSTEIN,** sharp black and white, **GUERNSEYS,** rich orange fawn with white markings. Few very choice grade calves marked as described above. Straight top line, heavy boned, hardy calves that make big type cattle. Write Edwin Howey, South St. Paul, Minn.

GUERNSEY COWS AND BULLS

\$50.00.....Buys a bull calf
\$100.00.....Buys a yearling bull
\$125.00.....Buys a heifer calf
\$150.00.....Buys a two-year-old bull
\$200.00.....Buys a mature bull or cow
"McLARAN OF WRENSHALL," MINN.

Holstein, Guernsey and Shorthorn Calves. A few extra good ones. Either sex. \$12.50 to \$35. Write Edwin Howey, South St. Paul, Minn., Station F.

HOLSTEINS. Beautifully Marked Holstein heifer and male calves, 15-16ths pure, 4 to 6 weeks old, \$20.00 each, crated for shipment anywhere. All from mature dams and heavy milkers, guaranteed. One car heifers a year old, \$45.00. Write or send order to Edgewood Farm, R. 10, Whitewater, Wis.

ENVILLA STOCK FARM

Cogswell, N. D.
Will quote you special prices on Angus and Holstein Cattle, Feeding and Breeding Sheep, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens turkeys, geese, ducks, guineas, pheasants, rabbits ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

DUROC JERSEYS Gilts out of such Model Queen 5th, Model Beauty and other sows as well bred as could be bought at the sales last winter. Write H. N. HOYME, Jasper, Minn.

DUROC JERSEY SPRING PIGS

Buy your new stock now while the price and express will be low. First class stock from prize winning sires at reasonable prices. Unrelated pairs and trios a specialty. New stock for old customers.

Roy W. Jacobs, Wadena, Minn.

Bixby's Red Polls

My herd bull, J. D. Merryweather, No. 24396, is the son of J. D. Millie, A. R. Grand Champion cow at Minnesota and Montana, in the 1915 show-ring and won the milk and butter contest with Guernseys, Jerseys and Brown Swiss competing with records of 600 pounds butterfat. J. D. Millie weighed 1280 pounds at thirty months old, and is full sister to the World's Champion two-year-old heifer. J. S. BIXBY, : : LISBON, N. DAK.

MISCELLANEOUS

Threshing Rig

Complete Threshing Rig for sale at a bargain. Nichols-Shepard. 25 H. P. Double-Plowing Engine, 40x60 Advance Separator. Write for full particulars. John Kovarik, Walnut Grove, Minn.

POLAND CHINA spring pigs from registered stock at reasonable price. Pedigree furnished. Also a registered boar one year old. J. Magnuson, Edinburg, N. Dak., R. 3.

HOLSTEIN AND GUERNSEY HEIFER AND BULL CALVES. Choice selected promising dairy calves, practically pure Holstein and pure Guernsey, but not registered, nice color. \$20.00 each, all express paid to any point in North Dakota. Order two, you will be so well pleased you will want more.—Meadow Glen Yards, Whitewater, Wis.

FARMERS NEEDED, to buy and occupy our lands near Duluth, and help raise crops for feeding the thousands working in New Steel Plant here. Low prices! Easy terms! Write, Arnold, Land Agent, Rock Island Railway, 107, Wolvin Bldg., Duluth, Minn.

LEARN TO SPEAK IN PUBLIC. We train men and women to be good public speakers. Money, position and prominence to be gained thru good platform work. Total cost is only \$5.00. We teach other things—send for outline. Prin. W. C. Moore, New Egypt, N. J.

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, . . Cogswell, N. D.

WANTED to hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

POWER FARMING. The magazine of farming with mechanical power. Send 10 cents for three months' trial subscription. Power Farming, Box C, St. Joseph, Mich.

WANTED: To hear from owner of farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

For Sale 1914 Minnesota No. 13 and Northwest Dent seed corn, tests 97%. Olson Bros., Milnor, N. Dak. R. 3, Box 35.

WANTED—RESPONSIBLE REPRESENTATIVE. 12 tools in 1. Sells to farmers, teamsters, contractors, etc. Lifts 3 tons, hoists, stretches wire, pulls posts. Many other uses. Free sample to active agents. One agent's profit \$45 in one day. Another \$1000 in Dec. We start you. Write for Big Color Plate. Secure exclusive sale. HARRAH MFG. CO., Box M, Bloomfield, Ind.

Farms and unimproved lands on easy terms. Real bargains in any state. Send for our free magazine. Services free to buyers. Western Sales Agency, Minneapolis, Minn.

IMPROVED FARMS, especially adapted to dairying, near successful Co-operative creamery, low prices. Easy terms. Act quickly. Arnold, Land Com'r, 509 Wolvin Bldg., Duluth, Minn.

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Real Estate and Registered Stock Specialist—22 years experience. Write for dates and terms. Breeder and shipper of Chester White hogs. Larger blood lines for 1915. Milnor, . . . NORTH DAKOTA

MISSOURI AUCTION SCHOOL

FREE CATALOG KANSAS CITY, MO.

largest pigs at a given age, and it does not cost as much to keep one over a year, as it will to raise one from a pig to a yearling.

As a rule, in a horse coarse hair is associated with coarse skin and that is a true indication of soft springy bone that more quickly becomes diseased when subjected to a strain of hard usage or neglect.

There is no animal that equals the cow for building up the fertility of the soil. This is due to the fact that a large proportion of the fertilizing material in her food is returned to the soil.

The low down uniformly pruned tree will produce more fruit and of a quality superior to that of the tall tree, while the ease with which the fruit is picked from the low down trees recommends them to all.

It is good economy to feed the cows liberally when dry. If in good flesh but not too fat at the time of freshening she possesses a reserve force which will be applied to an increased production of milk.

With the heifer calves intended for dairy cows, they must be kept growing continually, as any check in their growth is a cause of loss in size and development of the digestive organs and consequently affects the future value of the animals.

In the dairy there can be no definite sum fixed upon as a point of profit for the condition under which milk is produced, the expense in production, and the circumstances of its disposal cannot be fixed or regulated by commercial laws of supply or demand.

A cow's fitness for a place in the dairy is now based upon the quality as well as the quantity of milk she gives. The question now is not how many pounds of milk will she give each day, but how much butter and cheese will it produce.

The tendency of all improved animals is to revert backward toward the original type, and in the case of swine it should be borne in mind that, while there is no stock that can be so rapidly improved by judicious selection, feed and care, there is none that will degenerate so quickly under neglect.

STOCK-RAISING ON THE DIVERSIFIED FARM

Geo. P. Grout, A. C. '08

THE average North Dakota farmer has been engaged too extensively in grain farming to give much thought to the raising of stock. In traveling from Minnesota, thru North Dakota to the Pacific coast,

the writer was thoroly impressed with the need of more and better livestock. There are vast tracts of land that are not wholly fitted for grain farming and if the farmer would devote more time to stock raising, his annual income would be greater and far more sure than at the present time. One of the chief problems which confront the western farmer is the disposition of farm products. The farms are large and where grain farming is followed to the exclusion of other things the check comes in but once a year, that is at harvest. Another great difficulty is that the long railroad haul on grain eats up much of the profit for all concerned. This difficulty could be overcome to a large extent by marketing the finished product in the form of animal proceeds rather than the raw material. At no time in the history of the northwest has the demand for livestock been greater than at the present time. Beef, butter, and eggs are also bringing a good price. This should cause the farmer of the northwest to consider well the advisability of the introduction of livestock.

Most beginners in the livestock industry start with a pure bred sire and grade females. This is the cheapest way to build a working herd. The question which first confronts him is the choice of a breed that may best suit his needs. There is no best breed of cattle and good individuals may be found in all breeds. It is, therefore, of prime importance that the beginner consider well the selection of a good foundation herd. If he wishes to do absolutely no milking, and grain and corn can be raised cheaply, the beef industry will doubtless pay good dividends, but here again the returns come in but once a year. For the farmer who has his own help or is in a position to hire competent labor, there is no branch of agriculture which will give better returns than dairying and the cash receipts come in each month. With

WOOL WANTED! Highest prices! Honest grading and weighing. Don't sell till you get our price-list. A home concern. Ohsman & Sons Co., Cedar Rapids, Iowa.

Lyndale Stock Farm

Breeders of Registered Red Polled Cattle, and Big Type Poland China Hogs. Some good bull calves for sale. Also pigs mostly all sired by a "Peter Mouw" bred boar.

J. E. BASS & SONS, Props. North Dakota Tolley.

BIG TYPE Poland Chinas



With quality; 100 to select from. Can furnish pairs not related, sired by four leading herd boars in the 1000-lb. class, Mouw's Jumbo 3rd, Dignans Chief, Baron and Miller's Big Chief. We are booking orders for Gilts to be bred for Spring litters. Prices reasonable. Pedigrees furnished.

J. A. Dignan

Waverly, : : : Minn.

special care and expert management, there is no breed of dairy cattle that excel the Holsteins and the Guernseys for milk and butter fat production and in certain sections, Jerseys have their place. Where only diversified farming, at the best, is carried on and no specializing done in any branch of the industry, cattle of more general utility can be used to good advantage for several reasons, chief of which is the fact that that they are much more hardy and easier to handle by the average man. For the dairy specialist and the patrons of our large creameries, we believe in special dairy cattle, but for the average diversified farm, we believe in the cow of the milk and beef form. The facts are, if breeders would only admit it, we are all striving for the large roomy type of cow. Holstein breeders are breeding a large type of cattle, and the modern Guernseys are being developed well toward the 1200 pound mark for mature cows. While the writer has had very little experience with the modern Short-horn cattle, as a boy, his father had some of the best grade milking Short-horn cows in southern Minnesota. From practical experience we can say with no fear of any one's proving to the contrary that there is such a thing as a cow of the milk and beef form. For several years we have been developing Red Polled cattle and know this breed and refer especially to them as a model of this type of animal. We consider a whole herd of large, deep-fleshed cows, weighing around an average of thirteen hundred pounds and having an average of ten thousand pounds of milk (official) as the acme of general purpose stock. Our thirty milking cows in this herd average 10,000 pounds, and twenty of the best average over twelve thousand pounds of milk and five hundred pounds of fat per year (official). In our herd we have individuals that will greatly exceed this standard; one that weighs 1750 and has made over 20,000 pounds of milk and 891 pounds of butter fat; one that has made over 603 pounds of butter fat, and has a daughter that has made over 700 pounds of butter fat in one year and over 1250 pounds of butter fat for two consecutive yearly official tests. Then, too, this breed of cattle are persistent milkers and are not easily thrown off feed. One of our cows weighing 1500 pounds was unbeaten in the 1915 show ring in the strongest Red-Polled competition staged in years, has made over 516 pounds of butter fat and traveled over three thousand miles on the show circuit while making this record. Another cow, weighing 1440, has averaged over 400 pounds of butter fat for six consecutive years, while another has an official record of 546 pounds of fat for one year and has averaged over ten thousand pounds of

milk for the last six years from Jan. 1, 1909 to Dec. 31, 1915. These are uncommon cows, and the herd is an uncommon herd, but an A. R. Red Polled cow must make 300 pounds fat to be admitted to the advanced registry and a three hundred pound cow is a very useful animal.

The bull is the foundation of improvement in the herd and if a farmer expects to breed cattle for general utility, he should never hope to bring about the desired results by selecting milking cows and breeding them to a beef bull. He must breed systematically for the characters desired in the offspring. A bull of deep fleshing quality, weighing between 1800 pounds and a ton, if out of a dam that has produced between four and five hundred pounds of butter fat in a year and belongs to a long line of milk and butter fat producers, should give production to his daughter, as the daughters will be like the dam of the sire.

The great trouble in the past has been that farmers and breeders who have been desirous of breeding a general purpose animal have bred chiefly for beef and show ring qualities and claimed milking ability. Profitable sales are more readily made by having the animals in high flesh and claiming that they belong to the milking strain, but no one thing has done more to injure the reputation of the cow of the milk and beef form than this point. We wish to make it clear that **claiming dual character** and **milking strain** does not make a dual breed but official weights, carcass tests, and official records for milk and butter fat are the proof. The man who doubts that there is a breed that carries these dual characters had better investigate before he lays himself open to ridicule. We believe that no breed of cattle without official milk records have any license to masquerade under the name of general purpose, or if the name pleases better, dual purpose cattle. These animals can only be produced by breeding for them the same as we breed for any other line of improved livestock.

GUARD AGAINST HOG CHOLERA

By Stephen O'Toole, N. D. Experiment Station

IT is encouraging to note that hog cholera has not been so prevalent thruout the state of North Dakota during the past year as it had been during several preceding years.

This situation, however, should not in any way induce the hog owner to take more risks without exercising the same precautionary measures as those taken when the diseases was more widely spread.

In a contaminated area where pigs

are farrowed, the pigs will be the first to become infected. The virus at this time is apparently somewhat attenuated and a post-mortem will not show extensive and pronounced lesions. When the virus producing such conditions has passed thru several pigs, it becomes more virulent and will then infect the larger animals.

To prevent the occurrence of such conditions, the pigs should be given careful attention from day to day and if any of them seem to be unthrifty, one or more of the unthrifty ones should be killed and examined for cholera lesions.

If the lesions are found, every pig when more than five days old, including those subsequently farrowed, should receive an injection of serum. After receiving the serum injection they should be permitted to remain exposed in the contaminated area in order to produce a more lasting immunity.

If a place is contaminated where there are not pigs being farrowed or even if it has remained unoccupied for a long time after the diseased and exposed animals have been removed, there is grave danger of the infective agent still existing there and it is necessary to resort to all the sanitary measures that will insure the destruction of the virus. When it is possible, it is advisable to let an area of contamination remain unoccupied for at least a year after it has been cleaned and disinfected.

During the period of warm weather when cholera virus is most active, any one contemplating the importation of swine into a district, either contaminated or free of cholera infection, should be treated before arriving at the place of their destination, providing sufficient proof of their being permanently immunized cannot be given. If these precautions be taken, the dangers accompanying the transportation of virus or exposure to the disease will be materially lessened.

At a time like this when cholera is at a low ebb, every effort should be made to completely eradicate this fatal disease.

Car Load Shetland Ponies

Imported and Home Bred.
Mares Heavy in Foal. Some
fine Shetland Stallions, Fillies,
and Horse Colts. Must be sold
at once.

ENVILLA STOCK FARM
Cogswell, : : North Dakota



Poultry Department



POULTRY NOTES

Intensive poultry culture is carried on to a considerable extent in the United States. For years it had been the rule to average up 100 hens per acre. In other words, it required ten acres of land for a 1000-hen farm. Today as many as 500 hens are kept on an acre, on a great many places. Another method that has been tried, is the no-run plan, the fowls being kept indoors the entire year. Personally, the writer does not endorse either the method of overcrowding, or the plan of imprisoning. Hens need "elbow room" and freedom to do their best.

The average age of usefulness in a hen is rated at two years, and in a duck or goose at four years. Yet occasionally specimens are found that remain prolific for twice that age. For breeding purposes, hens from 18 to 24 months old are preferred, especially when mated to strong, vigorous cockerels. It is advisable to hold hens, as long as they yield a profit—either by the number of eggs they produce, or by the number of good chicks their eggs produce. The trap nest is a valuable aid in ferreting out this matter.

In 1906, the West Virginia Experiment Station made a series of experiments that tell a tale worth remembering: fifty White Leghorns were compared with fifty mongrels for one year as to cost of food and egg production, ordinary care and attention being given them such as they would receive on the average farm. In addition to skim milk used to moisten the mash, the Leghorns consumed 61 pounds of food costing 85.3 cents, and the mongrels consumed 66.8 pounds of the same materials costing 92.1 cents. During the year the Leghorns averaged 116.5 eggs, worth \$2.24 per hen, and the mongrels 96.1 eggs, worth \$1.72 per hen. The Leghorns gave a profit over the cost of food of \$1.39 per head, and the mongrels a profit of 86 cents. The Leghorns gained in weight one pound per head more than the mongrels. The highest prices for fresh eggs usually prevail during the months of November, December, January and February. During these four months the mongrels laid only 364 eggs and the leghorns 1,929, or practically three times as many.

In feeding the Light Brahma, I. K.

Felch gives a ration consisting of 15 per cent flesh, such as ground bone, beef scraps, desiccated fish or blood meal, 25 per cent of vegetable, either giving the flock ample chance and range to secure this, or if confined to finish it in the way of clover meal, boiled potatoes and turnips, or raw cabbage, lettuce and mangels, the balance being 60 per cent of the different grains. These he makes up in the following proportions; 15 pounds corn meal, 15 pounds oats, 10 pounds barley or wheat. If to be fed dry, or for a meal of this to make the morning mash, in which to feed the meat then he lets this meal be made of 15 pounds nice wheat bran, well mixed and ground together. Then to such proportions as will be eaten up quickly, he adds 33 per cent of the meal scalded well together for the morning mash, the dry grains in the scratching sheds in the afternoon. If he sees the stock is getting too fat, then he leaves out the corn. One can feed exclusively of corn and get the stock so fat that not an egg will hatch and the shells grow thin and undesirable.

POULTRY TOPICS OF INTEREST AND VALUE

Michael K. Boyer

IT is an accepted fact that the tamest hens are the best layers; that when a hen feels safe and contented she is more apt to get down to business. A "scarey" hen, one that gets all excited when approached, or when discovered on the nest, is never a very profitable one.

I. K. Felch tells that when a strange dog comes on his premises, the very next day, and for several days thereafter, those hens frightened by the canine's appearance either do not lay at all, or the record drops fully one-half. But the home dog, the dog that is continually about the premises, is never noticed by those same hens.

The writer put an addition to his hen house, which necessitated much pounding and noise, and the very next day the Leghorns, in a pen adjoining this new building, stopped laying and did not lay another egg for two weeks.

Hon. F. E. Dawley, a former director of the New York State Farmers' Institutes, tells of how one day an old lady, who was visiting them

Mammoth Bronze Turkeys

First at North Dak. State Fair. Fine heavy Stock at farmers' prices. CHRIS GEIR, R. R. 3 Edinburg, N. Dak.

FIFTY VARIETIES CHICKENS, DUCKS, GEESE, TURKEYS. Guineas. Incubators. Special low prices. Catalogue 4 cents. Dell Walrath, Janesville, Minn., Box X.

S. C. White Leghorns, R. C. Reds and Anconas. 34 prizes including first cup, my record for 1916. Eggs and stock in season. List free. H. H. Hirschy, Lisbon, N. D.

THOROUGHBRED S. C. Rhode Island Red eggs, \$2.00 for 15. From good strain as can be found. Order Now. E. N. Hedahl, Mercer, N. D.

S. C. W. LEGHORNS. The Famous Tom Barron's Strain. Cockerels, \$1.50 each; \$7.00 per five. Pullets, \$1.25 each; \$12.50 per dozen.

ROSE COMB REDS. Cocks and Cockerels, \$1.50 each. Hens, \$10.00 per dozen. Have a large flock to select from this fall and can fill orders promptly. Joseph Berg, Hendrum, Minn.

Eggs for Hatching, will make winners at any show. 15, \$2.00; 30, \$3.50; 50, \$5.00. Silver Laced Wyandottes, bred for business. Winter layers. Anthony Elm, Lansford, N. D.

Barred Plymouth Rock Eggs for hatching. \$1.50 and \$2.50 per 15, \$4.50 per 100. Satisfaction guaranteed. Laurel Hill Farm, Bx. 34, Westby, Mont.

Pure Bred Barred Rock Cockerels for sale. Eggs from special pens. 10 for \$1.25.

A. CAMPBELL, -- McINTYRE, N. DAK.

FOR SALE. Barred Plymouth Rock Chickens, Mammoth Bronze Turkeys, Indian Runner Ducks. Eggs in season. Prices reasonable. Order early. J. Magnuson, Edinburg, N. D., R. 3

55 BREEDS Pure-bred Chickens, Ducks, Geese and Turkeys, Hardy, northern raised, vigorous and most beautiful. Fowls, eggs and incubators at low prices. America's Pioneer Poultry Farm; 21 years exp. Large fine Poultry Book and Catalog Free.

F. A. NEUBERT Box 689, : Mankato, Minn.

Breed White Wyandottes. Eggs for sale from vigorous trap-nested stock. My birds win in show room wherever exhibited. M. C. James, Valley City, N. D.

White Holland Turkeys, Toulouse Geese and Barred Rock Cockerels. Gustav Larson : : Northwood, N. D.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. MICHAEL K. BOYER, Box 27, Hammon, N. J.

ROSE COMB WHITE LEGHORNS and Rose Comb Rhode Island Reds. First prize winners at Valley City Winter Show. Eggs from selected layers \$1.50 per 15. \$5.00 per hundred. A few choice cockerels for sale reasonable. W. E. Shrum, Valley City, N. D.

Quality White Rocks

Hatching Eggs and Stock in season. We have the Best. O. A. Barton, Valley City, N. D.

EGGS! EGGS!!

From thoroughbreds—Geese, Turkeys, Pekin, Rouen, Muscovy and Runner Ducks, White, Barred, Buff Plymouth Rocks, Hamburgs, Games, Black Langshans, Houdans, Orpingtons, Rhode Island Reds, White and Silver-laced Wyandottes, Partridge Cochins, Leghorns, Bantams, Pearl and White Guineas. Poultry eggs, 15 for \$1.00; also White Rabbits, Hares, Fancy Pigeons and Guinea Pigs. Write for free Circular. D. L. Bruen, Platte Center, Neb.

BARRED P. ROCKS

Big, Strong, Prize-Winning Stock
Hawkins, Bradley Strain

Eggs and stock in season at very reasonable prices.

PERCY BEALS

BOX 736 : : FARGO, N. DAK

walked out among the poultry with a red shawl on her head. With her slow walk and the ends of this red shawl fanned by the breeze that was blowing, a pen of hens (that were making a remarkable egg record) took fright and did not lay another egg for over a week.

More instances could be cited, but these suffice to show that it is very important that at no time the hens be unduly alarmed. It is remarkable how quickly a flock will know its feeder, and how shy they become when a stranger appears. We cannot always prevent hens from being frightened, for a scarey hen will jump, and yell when the smallest bird flies over the yard. But we can so tame the natures of our birds that they will take a second look at an object before they become excited. A timid rooster will excite even the tamest hens, so it is good policy to first get the male bird tame, and he will in turn put confidence in the hens. It has been noticed, too, that a tame gentle mother hen will instill confidence in her brood of chicks, and they will become regular pets—but a wild, scarey hen will place her chicks in a high state of nervousness.

In all my travels and visits among poultrymen, I have yet to find a flock of hens pay where there was an excitable, helter-skelter sort of attendant. Such a man is ever keeping his flocks on the border of "nervous prostration." The man who is quiet in his movements about the poultry, who never loses an opportunity of making friends with the fowls, is the man who will finally subdue the wildest flocks. For that reason, a woman is a better poulterer than the average man.

The Future of the Fancy

If any one entertains the thought that the rapid strides market poultry culture is making will eventually drown out the fancy, let him banish that thought forever. No greater mistake could be made. There is no antagonism between the two factions, excepting on a few matters pertaining to the welfare of the poultry world. The practical market poulterer is a firm believer in thorobred fowls. He dispises the mongrel hen about as much as the fancier does. He wants nothing but pure blood, yet he has no earthly use for the average standard-bred stock. Why? Not because they are prim and pretty—not that he does not adore the beautiful—but, in the attempt to secure these outward attractions, the fancier has been compelled to so inbreed that in many of the breeds he has destroyed a consti-

tution that should have been sound and rugged.

Furthermore, the Standard requirements compel the fancier, when he goes to mating his stock for breeding, to select only such specimens as will fit the markings desired, no matter if that hen does not lay enough eggs in a year to pay for her keep. Egg records are a secondary consideration in the fancier's way of thinking, and a score record is uppermost in his mind.

I remember a fancier of Brown Leghorns who was winning laurels at the shows, who every now and then moved his fowls to new buildings (during the winter) so that it would keep them from laying until spring, when the eggs were mostly needed for sale for hatching. Can there be a profit in a flock of fowls that have no winter egg record—excepting for sale for hatching purposes? Such a flock may pay the fancier well enough, but will it pay the market man to buy eggs for hatching from them?

The future of the fancy will depend more upon how they breed and deep their stock than it will according to the growth and magnitude of market work. If fanciers will breed for egg records, and keep as near the line of the Standard requirements as will be consistent for profit, they will find a new and more prosperous business coming to them. While it is to be admitted that the growth of the practical side has molded the future of the thorobred poultry breeding, there is no reason for believing that the poultry farmer is opposed to the fancier. The former only states what sort of goods he will buy. It will shape the future of the fancy into a two-sided affair. The larger Standard farms will have to cater more to utility if they wish trade to support them, but there will still exist, among the smaller class of the utility people those who will never change their methods.

The score card is seeing its day. It never was of any practical use to the poulterer, and it seems by the advent of comparison judging and the pace that method is setting, that it is of not very much use to the fancy.

The truth is the poultry world wants fanciers. It must have men to create new and keep up old breeds. The market men are still looking towards the fancy for something better than that which we already have. Whether or not it will come we can not say. When the American Dominique was introduced we thought it was the general-purpose fowl, but a large and better breed—the Barred Plymouth Rock—soon crowded it out, and we felt sure perfection had at last come. Today, however, the market poultry world is dividing honors with

the Wyandotte. Again, cry out the poulterers, we have secured the ideal breed. But just how long that cry will remain I can not say. Let the fancy give us still a better breed, and the Wyandotte will be compelled to make room for it.

There is one objection to the new breeds, and that is that so many are created that are not so good as many we have. What we want are breeds that in some way or other excel the varieties we at present have in hand. Yet with the creation of a new breed, these poultry speculators, who at the same time laugh at the utility claims, declare that this new fandangle is "remarkable for hardy constitution, egg records and carcass production"—just the very things that the poulterer is fighting for, and which only brand him as a "mongrel hen crank."

The future advertising will read—in fact the greater part of it now reads: "Bred for Eggs", "Bred for Meat," "Bred for Good, Strong Stock," and when the farmer is looking for new bloods, he generally inquires into the honesty of such advertisers.

The Three Graces

The three graces in poultry farming are love, faith and work. If a man has love for his work he will be more apt to rightly manage it and more apt to notice all the details of the business. If he has faith, he will not become discouraged, and will stick to it thru thick and thin. He will work because he knows that work hath its reward. What can we do with any business if our heart is not in it? To do things mechanically will never accomplish good results. We must be in a different mood. We must see pleasure in what we do. We must not slight our attention. When we have faith in what we do, we cannot become discouraged.

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North Dakota Farmer.....	\$5.00
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Total, 6.00

OUR PRICE, ALL FOUR, \$3.00

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The North Dakota Farmer
Lisbon, North Dakota

School and Home



Miss Ura Leader,
Ruraldale, N. D.,
Dear Miss Leader:

I am now writing you my last letter for this school year. It near breaks my heart to sever this cordial relationship, even for a short time. But the kids must have their time for play and the gardens and grain fields are nearly ready for them to begin their frolic.

I hope you as a teacher do not have to spend your entire year's saving having a delightful time in some summer school. If you teach next year you will have to do the work over again, but with a new number of pupils in the different grades. The incentive then is to do better work than was done this year—no matter how good the work just completed has been.

Your method of approaching the work will determine whether or not you will like it. While it leads in a circle, still it leads to self development as well as to the development of the students. There is nothing much greater in this world than to improve oneself. The summer vacation should lead to self improvement.

The course of study for this month's work calls for a treatment of two important topics: "The purposes of cultivation" and "Conveniences for the farm home." It seems to me that the latter topic is of extreme importance. Certainly our North Dakota homes are not made as attractive as they might be.

Too few of our homes have the conveniences now available. Conveniences are not alone those of machinery and utensils. Arrangement has much to do with the ease of house keeping. And many things classed as conveniences have a great deal to do with health.

It is well to sum up the things that might be classified under this head. Among the more important are: water supply, the lighting plant, sewage disposal, heating plant, and power machinery for washing, churning, and other daily work. None of these things are out of reach of the majority of farmers.

Last summer I visited some of my friends in Michigan and I found in

many localities that practically all the farmers have all these conveniences. The houses are as comfortable and as well arranged as any in town. They have their own electric lights, furnace heat for the house, complete bathroom facilities, and all the hard work is done by power machinery.

Why not start much of this work by home study. Schools in many of the states now give credit for "home project work." If a boy is to study corn and it is corn planting time, give him credit when he plants and cares for the corn in an approved manner. If he carries in wood he is learning by doing. If he milks the cows he certainly is thinking.

Along this same line have the differ-

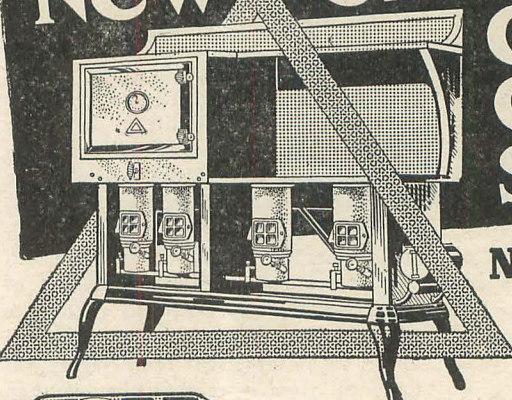
ent pupils count the number of steps it takes to get a pail of water, to furnish the daily supply of fuel, or to do any of the daily things that must be done on the farm. I believe you will be surprised at the difference now existing due to the difference in arrangement.

There is no particular pleasure in going a quarter of a mile for a pail of water. If possible get the boys and girls interested in the study. Even if improvements are not now made, they will be when these youngsters grow up. Under no circumstance would I try to re-organize these things in a single year. It is too much like butting your head against a brick wall.

Conveniences pay. They pay on the farm and they pay in the home. Do not confuse conveniences with necessities. A plow is a necessity. So is a wagon, a drill and a binder. But a riding plow with a canopy over the seat is a convenience.

I believe that any thing that gives a

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Truly that is the housewife's idea of paradise. And those features are only a few of the many advantages of cooking with *New Perfection Oil Cook Stoves*.

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You don't have to watch it either. The flame will not creep up or diminish.

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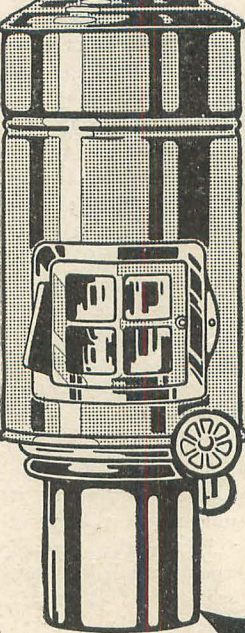
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return for its use is a necessity. If it does not pay it is more of a luxury. Most certainly it will pay to lighten the labor of the house wife. Most women on the farm age too rapidly—it is because they do work beyond their strength. These labor-saving machines are real necessities since they will save the wife's health.

Let your thoughts run over some of the women you know who work like a horse, think of their bent shoulders, their numerous ailments and their broken health. Does it pay when the back-breaking labor may be done for a few cents a day by a reliable machine?

Now do not think too long nor too hard or you might become discouraged. But let your imagination run wild for a while and give the results to the young people. Look out that you do not offend some of your dear friends near home!

Why do the farmers plow the land, then harrow it and do so much work, just fooling around before they plant the seed. Is there a real object, or is it for the fun of the thing. Ask, and I think you would be informed that it is necessary.

Tillage modifies the soil structure. All cultivation is done to modify the soil in some way. Then tillage must be done to obtain a particular condition of the soil. This condition can be seen by examining a few fields while preparation is being made for seeding.

Soil is made up of small particles of matter derived from broken down rocks, and from a small amount of vegetable matter derived from the roots and stubble of the crops. I advise that with this start you have the students do the work. You might set them a few well directed problems to study.

Let them determine the answers to the following questions:

Does plowing loosen or pack the soil?

Does moisture move most rapidly in dry or damp soils?

What effect does cultivation have?

Which is warmer: a dry or wet soil?

Is soil in good condition lumpy, dusty or are the particles arranged in groups?

Do not stop with these few questions, they are merely suggestive. But if you determine the answers you will know why cultivation pays.

Very truly yours,

O. O. CHURCHILL

Common baking soda is better than ashes or sand for scouring tinware. Apply with a soft brush and polish with a dry cloth. It will not scratch, and makes the article look like new.

MAKING THE MOST OF FARM BOYS AND GIRLS

A. P. Hollis, N. D. A. C.

An "Aurora Borealis School" in North Dakota

Walter E. Botsford, a last year's graduate of the A. C., has broken ground in an interesting experiment at the Grey Consolidated School in

Cavalier County. The school is housed in a new brick building in the open country, and this winter Mr. Botsford organized an evening school for adults. He writes:

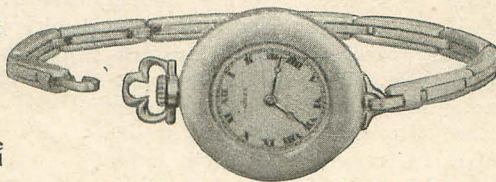
"This work has been a great success, weather considered, and I predict it a coming form of extension work for community enlightenment. I have classes in Penmanship, Commercial Arithmetic, Bookkeeping and Farm Accounting. There are twelve

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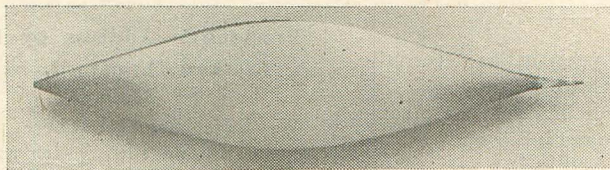
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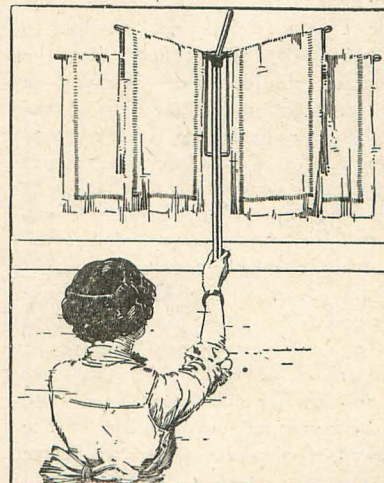
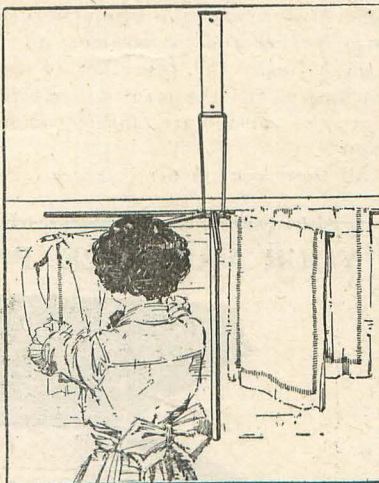
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NORTH DAKOTA FARMER, : : : : LISBON, N. D.

men enrolled. Nine are young men living or working out in this neighborhood; two are farmers of three or four years' experience each; and one is a school teacher." While Commissioner Claxton has reason to be proud of the new "Moonlight Schools" of Kentucky, held under the soft southern moon, he ought to be prouder of these North Dakota farmers who went to school this winter under the Aurora Borealis with the thermometer at 50 degrees below.

"Dear Mr. Hollis, will you please send me a good yell for a rural school?" The above item is quoted from a recent letter, and shows how the rural school is coming into self-consciousness. We were greatly tempted to make our poetic debut in answer to this, but wisely concluded to let George do it; and turned the letter over to Mr. Arvold, with the request that he send his best yell by package library.

The Rural Lyceum in Renville County

During the coming ten days, some of the rural communities, towns and consolidated schools will have the opportunity of hearing the first number of The Rural Lyceum which is one of the activities of the Extension Department of the Agricultural College. The Rural Lyceum is a new venture in this state and especially in Renville County, but it has met with such a hearty reception elsewhere that at the Teachers' Institute, Supt. Rockne urged the larger schools which had no lyceum course to consider the proposition. Prof. Hollis, addressed the School Directors but was unable to meet many of the teachers, else the movement would have received a much greater inspiration from the start. But appeals for serious consideration of this movement have met with hearty co-operation so that eight or ten communities in Renville County will have the pleasure of hearing some if not all of the four numbers.

It is hoped that the Rural Lyceum will grow from year to year. It is hoped that this movement will result in greater co-operation, so that the activities of the school may more and more be evidenced in the life of the community, and become a vital force in making the most of our boys and girls.—School Journal, Renville Co.

MAKING RECORDS

The pork production contest for 1916 has been announced by the Extension Department of the North Dakota Agricultural College. This con-

test will be carried on in co-operation with the county superintendent of schools and the county agent.

The contestants in the three previous contests have made splendid records. They secured about twice the market price for the feeds that they fed their pigs. They worked out methods that enabled them to make a good profit, feeding the ordinary farm feeds to pigs. So much interest has been shown in these contests that the results have been called to the attention not only of nearly every one in the state but to a good proportion of the people of the union. Big dailies, the weekly papers, the agricultural papers and the magazines have all given publicity to these results thru their columns.

INDUSTRIAL COURSE COMMENCEMENT OF THE A. C.

President's Address by Ingval
Bjerkman, Lansford, N. D.

We have assembled here today on the occasion of the twelfth annual industrial course commencement.

The industrial courses consist of a 'home makers' course for young women, which deals with the domestic arts and sciences, giving a practical and rational training in home life and in home making; a power machinery course for young men giving a training in practical engineering and in the operation of power and electric lighting plants; a farm husbandry course which deals with the scientific principles underlying crop production, the care, feeding and management of the farm animals, the operation of farm machinery, and the many other things that the up-to-date farmer should know.

All these courses are intensely prac-

tical. They are intended to put brains into the common occupations of life, or to serve as a foundation for further study along similar lines.

Three years ago the members of the graduating class entered the gates of the North Dakota Agricultural College. We believed in the saying that, "He is best educated who is most useful" and we came here to secure for ourselves and the communities which we represent, a better knowledge of the vocation that we expected to follow in the future.

During this comparatively short space of time, we have worked together in the laboratory, we have studied together in the class room. We have learned to know each other and have made acquaintances which can never be forgotten.

After having completed our course of study we shall part again. The majority of us expect to return to our respective homes and communities in the country, to begin our life work and to put the many things we have learned here into actual practice.

In so doing we must meet the three

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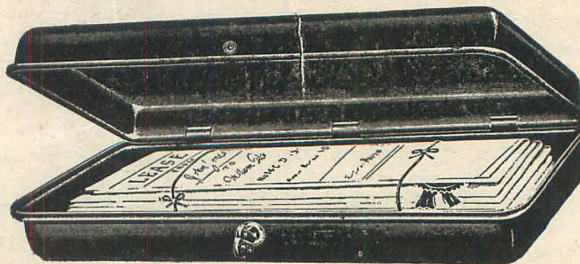


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NORTH DAKOTA FARMER, : : LISBON, N. D.

great problems confronting the American people today.

First, a scientific problem. We must live. We must have food to eat and clothes to wear. We must have shelter.

Second, an economic problem. It is not enough that we have food, clothes and shelter. We must be able to save enough to live comfortably, and to provide for ourselves a home and means to live during older age.

Third, a social problem, and this I believe is one of the greatest problems confronting the American people today. This is especially true in the rural districts where life often becomes dull and monotonous.

People must have some form of entertainment; if it cannot be had in the country, they go to the city; if they cannot secure that which is educational, wholesome and upbuilding, they resort to that which is demoralizing.

The solution of the problem lies in bringing the people of the rural communities together, thru the organization of farmers' clubs, literary societies and similar organizations, thus developing a better community spirit. The country folk must find themselves, must write their own poetry, have access to libraries. They must have some common meeting place where they can get together to discuss the problems of their everyday life and where they can give plays which they themselves have written.

The purpose of the course which we have just completed is not merely to make two kernels of corn grow where one grew before, or to make two spears of grass grow where one grew before.

We have learned a great deal outside the class-room, in the literary societies and in the various student activities in which we have taken part. The majority of us have had an opportunity of appearing in a play or some public program in the Little Country Theatre. These various student activities have broadened our minds and given us a vision.

The establishment of a social center in every rural community would have a tremendous influence toward the betterment of the social conditions in the country.

The members of this class represent thirty-two communities in North Dakota, two in Minnesota, and one in Iowa. A few days ago we adopted the motto, "Launched But Not Anchored." We are like thirty-seven ships just having been launched upon the sea.

Let's set our standards high. Let's have some ideal in life, that we be not like a ship upon the great wide ocean, without a captain—without a guide to

direct its course or to prevent it from striking upon rocks in an uncharted sea.

GARDEN HINTS

Just as soon as the frost is well out of the ground it will do to sow onion seed and peas. Beets, early potatoes, spinach, radishes and lettuce may be planted early, too. Tender vegetables should wait until April or May.

Make the garden rows as long as possible. Cultivation is cheaper when the rows are long and the garden will also look better.

A hotbed soil must have a liberal supply of plant food and yet be mellow and friable, so water permeates it uniformly and leaves it dry and loose on top.

The hotbed pit may be any length according to the number of beds, and dug thirty inches deep with the interior boarded up with one-inch lumber, fill to within three inches of surface on south side being careful that manure is tramped firmly, as it will settle away from top leaving ample space for placing of flats in beds. This makes about twenty-six inches of manure. Over this spread six inches of prepared soil, which has been screened in order that it may be fine and friable. If it is desired to sow the seeds in flats, then only one or two inches of soil need be placed over manure and flats set directly on soil.

Cabbage. Requires a rich, moist soil, stirred deeply—twelve inches is none too much. Rather low land is preferable. Avoid hot hillsides. A north hillside, if rich, will produce a good crop. Cabbage must be stored in low temperature, kept just above the frost line. In fact, a little frost is better than heat.

Cucumbers. Try starting in paper pots, in hot-beds or cold-frames. Sow seed about four weeks before you expect to set plants. Will do best in a light, rich soil with proper drainage. Too much moisture will produce failure to a certain extent.

Parsnips grow deep, and a porous soil must be provided. This means deep plowing and sub-soiling about eighteen inches. To secure good size each seed should have three inches of space in the row but the rows may be as close as possible, allowing cultivation.

Coax the rhubarb along by turning a bottomless barrel over it and chink cracks around edge with manure. Use plenty of manure as it increases vigor of plants and size of stalks.

Good preparation will reduce the dangers of drought, make cultivation easier and more satisfactory and pay

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For Your School
This will interest patrons, pupils and teachers

One Teacher Writes:

Finley, N. Dak.

March 25, 1916.

The N. D. Farmer:

I am very much pleased with the premium you sent me. It took less than two hours to secure the ten subscriptions and I feel more than paid for my work.

Thanking you for your promptness in sending me the 4x8 flag, I am

Yours truly,

MARY BIRKLAND.

Write us for our plans by which you may obtain a big flag for your school without paying a penny. A postal will do.

**NORTH DAKOTA FARMER,
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you substantial returns in yields of delicious vegetables.

Where land is available it is not advisable to limit your gardening to a very small plot. Devote plenty of land to it, for no other equal area will pay better.

CURRENTS AND GOOSEBERRIES

Currents and gooseberries do well in North Dakota. To secure the best results plant varieties that have been well tried in North Dakota, and found to have hardiness and good quality such as the Pearl, Houghton, Carrie and Red Jacket or Josseyln gooseberries and of the currents Perfection, Fay's Prolific, Red Cross and White Grape. Plants of these varieties set about four feet by eight feet and given thoro cultivation will produce fruit of very good quality. If they are attacked by caterpillars or biting insects a spray of paris green or arsenate of lead should be applied. The most and best fruit is produced on the young wood of both currents and gooseberries. Therefore, the plants should be so pruned that they will have a new top every four years. Each year cutting out the oldest canes after they have produced several crops. A good system is to have a plant with about 12 strong canes, the three oldest of which are removed each year.

A winter mulch may be applied to these plants but it is not necessary. Some wind protection on the south and north is very important. It is almost impossible to grow any small fruits on the open prairie. This protection can be supplied by planting a windbreak of trees or hedges. (See circular No. 10—N. D. Experiment Station.) A plantation of gooseberries or currents is good for from 10 to 25 years.—H. O. Werner, N. D. Experiment Station.

BERRIES FOR NORTH DAKOTA Raspberries

It is a serious mistake to plant indiscriminately the eastern varieties of raspberries expecting them to live in North Dakota. This does not mean that raspberries cannot be grown in this state, as many people are growing them for home use with considerable success. There are some varieties that are hardy enough to be worth while. The Sunbeam is a new variety that seems to be sufficiently hardy to be grown in any part of the state without extra winter protection. It was originated recently by Professor Hanson of the South Dakota Experiment Station. Other varieties recom-

mended by the Minnesota Horticultural Society, that are of better quality, tho less hardy, are Loudon, Minnetonka Ironclad, Turner, Miller and King. The varieties that are not entirely hardy can be grown by laying the tops down in the fall and covering them with soil, so as to protect them over winter. This process may seem quite bothersome to some people. But until more hardy varieties of good quality are produced, it is the only way to be reasonably sure of having plants to produce a crop of real good berries, and it is a great deal better than to have no berries at all.

The plants are set about four by eight feet. The tops are pruned during the later winter, when all winter killed material is cut out, all old canes removed and the new canes cut back to a height of two and one-half or three feet. They should be cultivated frequently to conserve the soil moisture and to keep down the weeds. The suckers should be kept down, unless they are wanted for setting out a new plantation.

Raspberries, as well as all other small fruits need protection from the strong prairie winds. On this account they should be protected on both north and south sides by a windbreak of trees or a hedge, the growing of which is described in circular No. 10, N. D. Experiment Station.

HOME GROUNDS C. B. Waldron, N. D. A. C.

In a region composed almost wholly of high grade agricultural lands the extent and kind of tree-planting should naturally be greatly different than in a region made up in part of lands not especially suited to agriculture. Generally speaking, lands which will produce good crops cannot profitably be devoted to the production of timber. This does not mean that a certain amount of tree planting may not prove profitable, even on high-priced land. It simply means that, as a crop, timber is not now as profitable as corn, wheat, or alfalfa.

The profit derived from tree-planting is not measured wholly by the timber supply. Trees may be profitably planted to prevent the washing away of soil on hillsides, the forming of gullies across the land, and for the protection of our homes, stock, gardens, and orchards from the winds. Measured in terms of comfort and satisfaction, the right sorts of trees properly planted will prove highly profitable.

The primary object of tree-planting in North Dakota has been and should be for protection.

The damage done by hot winds to growing crops is a matter of common observation. This damage will depend upon the nature of the crop and the stage of its development.

Small grains are injured most when they are stooling or when the grain is forming.

Strawberries are severely injured if hot winds come during the blossoming period or again when the fruit is ripening.

Hot winds are most trying to celery and most other garden vegetables just after transplanting.

The injury to garden crops from hot and drying winds makes a shelter belt almost a necessity, if one is to get satisfactory results either from the standpoint of quantity or quality. Both the trees and the fruit of plums and apples are liable to considerable injury from strong winds, and most growers do not consider it practical to plant without some protection.

A badly arranged system of planting may be a positive detriment because of the accumulation of snow drifts about the buildings and in the orchards. On the other hand, trees may be so arranged as to prevent the piling of snow about the buildings and to provide for approximately the right amount of snow among the small fruits and in the orchards.

The winds most injurious to vegetation are from the south or southwest, and for this reason orchards and gardens should have trees planted along the south and west.

A home dressmakers tells how she gets her bias bands even and true. For turning a band about as wide as an envelope, for instance, she seals envelope, then cuts off each end, leaving a piece about two inches wide. Thru this piece of paper she passes her bias strips of bloch that have been sewed together, pressing the fold as it leaves the paper with a hot iron. By keeping the paper about three inches ahead of the iron, a perfectly even band can be marked with the greatest ease.

Use carbolic acid in the suds with which you wash out closets and bureau drawers. It is a good moth preventive.

Do not throw away a good hot water bottle merely because it has a small puncture. The life of the bottle may be considerably extended by sticking a piece of court-plaster over the spot punctured. See that the spot is quite dry, and be sure to cut the plaster large enough to allow a good margin.

Seasonable Receipts

Mrs. Sadie Baird, Editor

Just as soon as possible begin to use your fresh rhubarb, for it is a good spring food. There are many ways to use it besides the ordinary sauce and plain rhubarb pie.

Rhubarb Shortcake

Make rich biscuit dough as for strawberry shortcake. Roll out two layers about one-half inch thick. Cover one with thinly sliced rhubarb then place the other layer on top. The rhubarb will cook as the dough bakes. Serve with plenty of cream and sugar. You will find this an excellent substitute for the expensive strawberry short-cake.

Mock Lemon Pie

Stew without water and sweeten to taste as much pieplant as needed. For each pie add the yolks of two or three eggs, a level tablespoon of flour and a teaspoon of butter. Bake in one crust and use whites for meringue.

Rhubarb Cobble

One cup sweet milk, two tablespoons butter, two teaspoons baking

powder, pinch of salt and flour to make a stiff batter. Cut rhubarb fine; mix with sugar and put in shallow basin. Pour batter over it and bake. Serve with a sauce.

Prune and Rhubarb Pie

Line the pie-tin and dredge it lightly with flour. Cover this crust with one-half cup sugar mixed with two tablespoons flour. Put in one and one-fourth cup thinly sliced rhubarb mixed with one cup stewed prunes, cut in halves. Sprinkle with one-half cup sugar, two tablespoons cracker crumbs and a pinch of salt. Put on upper crust and bake thirty minutes in a moderate oven.

Dandelions and Bacon

Clean thoroly and boil till tender one-half peck of dandelion greens. Drain well.

Dice six slices of bacon and fry till crisp and brown. Pour off about half of the fat then add one-half cup mild vinegar, one-fourth teaspoon pepper and one teaspoon salt. Pour this over the dandelions, toss together and turn on to serving dish. Garnish with three hard-boiled eggs sliced.

Cup Custards

To each cup of milk allow one egg, one tablespoon sugar and a few drops of vanilla. Fill custard cups (ordinary cups or glasses will do) and set them in a pan of warm water. Bake for about 30 minutes, or until they puff up slightly. A sprinkling of cocoanut or a change of flavoring gives variety. They may also be steamed by setting the cups in an ordinary steamer.

Squaw Dish

To four slices of bacon, diced and fried, add one can corn, three eggs, well beaten and pepper. Stir and cook till eggs are set.

Corn Dodgers

Two cups sweet milk, two teaspoons of baking powder, a little salt, one tablespoon of lard; mix in corn meal to make a stiff batter, bake on a griddle on top of stove in oblong cakes, turning to brown on both sides.

A Tasty Omelet

Beat four eggs and four tablespoonfuls cold water until light. Add a pinch of salt and a little onion juice if liked. Pour this into a pan in which is heated a tablespoonful of drippings.

Always have a holder hanging near the stove; one of leather from the top of an old shoe is a safe one to use, and re-covered at any time.

An orchard neglected while young will, at its best, be only a second class orchard.

No general rule for pruning can be given except that all dead branches should be removed, water sprouts should be cut out and if the heads are too thick the branches that cross or crowd can be taken out. It often happens that in the old orchard that the growth has become stunted and if such is the case it is a good plan to cut back the branches severely.

If the fruit tree is so pruned as to carry an open head the sunlight is admitted to the center of the tree so that the fruit colors better and is more attractive.



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Here are two cans of Paint.

Both are exactly the same size.

One will cost you \$2.25 per gallon. The other will cost perhaps as little as \$1.50 per gallon, but the Mound City Horse Shoe Brand at \$2.25 per gallon will cost you less in the end.

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Because a gallon of "Horse Shoe Paint" will cover a larger surface than the cheaper grade, and fewer gallons are required for the job. By actual test you will find that six gallons of "Horse Shoe Paint" (enough for two coats on a house measuring 2100 square feet) will go as far as ten gallons of the \$1.50 kind.

In other words, you invest \$13.50 in "Horse Shoe Paint," against \$15.00 in the cheaper grade.

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